VŠB - TECHNICAL UNIVERSITY OF OSTRAVA

FACULTY OF ECONOMICS

DEPARTMENT OF FINANCE

# Finanční analýza firmy Metro AG

# Financial Analysis of the Company MetroAG

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# Bachelor Thesis Assignment

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1. Introduction
2. Overview of financial analysis methodology
3. Characteristics of company Metro AG
4. Financial analysis of company Metro AG
5. Conclusion

Bibliography
List of Abbreviations
Declaration of Utilization of Results from the Bachelor Thesis
List of Annexes
Annexes

References:

FRIDSON Martin and Fernando ALVAREZ. *Financial statement analysis: a practitioner's guide*. 4th ed. Hoboken: J. Wiley, 2011. 378 p. ISBN 978-0-470-63560-5.
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The declaration

"Herewith I declare that I elaborated the entire thesis, including all annexes, independently."

Ostrava dated.....09.05.2013.....

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# Contents

# 1 Introduction

Financial analysis is a process of selecting, evaluating and interpreting financial data. It aims to formulate and predict the assessment of the company's present and future financial position.

The goal for this thesis is to analyze the financial situation of Metro A.G from 2007 to 2011 and through these results to evaluate the internal and outer needs of the company, and make some comments and suggestions to the company's performance.

In this thesis, the major analytic object is Metro A.G Company. We use financial data, market data and economic data to assess the financial performance of the Metro A.G from 2007 to 2011. Generally, there are three basic financial statements in summarizing information about a company, balance sheet, income statement and cash flow statement. These three statements provide main resource to the whole thesis.

There are mainly three parts of the thesis. The first part is theoretical description about the financial analysis methods. So in chapter two, besides some briefly introduction about three statements Balance Sheet, Income Statement and Cash Flow Statement, it is mainly to introduce three methods of financial analysis that will be used in the calculation of the financial data, which are Common-size analysis, Financial ratio analysis and Pyramidal decompositions.

The second part of the thesis is the introduction of the company, which is in the chapter three. It is mainly on the characteristics of the company. The main parts include the history, the structure, the segmentation and the main market competitors of the company Metro A.G.

The third part is the most important part in the thesis. We use common-size analysis methods which are introduced in Chapter two to analyze the general financial situation of the Metro AG in chapter three. Here we concentrate on the financial ratio analysis method to have a deeper study on every aspect of the items in financial statements and its effects to between two items by influence quantification in chapter four. Through these ratios and comparisons between competitor companies, we will get some conclusion and comments in chapter five; through it we can have more precise prediction of the company's performance in the future.

# 2 Overview of financial analysis methodology

Financial analysis is a process through using data which financial statements showed and asses them to conclude the company's performances in a periodic time and predict the future financial tendency of the company.

This chapter mainly describes the methods of financial analysis. There mainly are three methods to analyze the financial performance of the company: common-size analysis, financial ratio analysis and pyramidal decomposition. The main objects of the thesis are three financial statements of the company. So firstly, it will have three briefly introduction of financial statements before methodology interpretation.

The main source of this chapter is from Robinson, Greuning, Henry and Broihahn (2008).

## 2.1 Financial Statements

Financial statements provide fundamental financial data information which helps to analyze the situation and questions about a company's operations and positions. There are three basic accounting statements here which provide the information about Metro A.G: balance sheet, income statement and cash flow statement. The main reference of this part is from book Ross, Westerfield, Jordan (2003).

### 2.1.1 Income Statement

Income statement can be an overview of every component which make up of the sales and costs of the company in a periodic time, usually a quarter or a year. It also can be called *Statement of operations* or *Statement of earnings.* Sometimes, it also can be called *Profit and Loss Statement (P&L)*. The income statement equation is:

$$\text{Revenue} - \text{Costs} = \text{net income}$$

The first few items of an income statement usually are revenue and net sales. For this Metro Group Company, the revenue is written as net sales. All items are relative to the operating activities and financing activities. Other parts include financing expenses such as interest paid. Taxes paid are reported separately. Revenues mine operating costs results to operating profit before interest and tax (EBIT). After EBIT deducts financing cost, it got the profit before taxes (EBT). Usually the last item of the income statement is net income, which is often expressed on a per-share basis and called earnings per share (EPS). Net income also is earning after taxes (EAT), so it is calculated by EBT mines taxes paid.

Here is an example of the income statement.

Figure 2.1 U.S. CORPORATION 2002 Income Statement

**U.S. CORPORATION**
**2002 Income Statement**
**($ in millions)**

| | | |
|---|---|---|
| Net sales | | $1,509 |
| Cost of goods sold | | 750 |
| Depreciation | | 65 |
| Earnings before interest and taxes | | $ 694 |
| Interest paid | | 70 |
| Taxable income | | $ 624 |
| Taxes | | 212 |
| Net income | | $ 412 |
| Dividends | $103 | |
| Addition to retained earnings | 309 | |

Resource: Ross, Westerfield, Jordan (2003), page 61.

## Revenues

Revenues amount to the charge for the delivery of goods or services in the ordinary activities of the company. It includes operating revenues and operating revenues. Operating revenues is mainly from sales of products, goods, and services, etc. And financing revenues contain interest received, revenues from owned securities (dividends received, coupons received, etc.).

### Costs

Costs amount to the fees must be paid in the ordinary activities of the company. It also includes operating costs and financing costs. Operating costs associated with generating operating revenues such as raw material consumption, electricity consumption, depreciation, costs of goods sold, salaries and wages paid to employees, etc.). And financing costs are interest paid, coupons paid, etc.

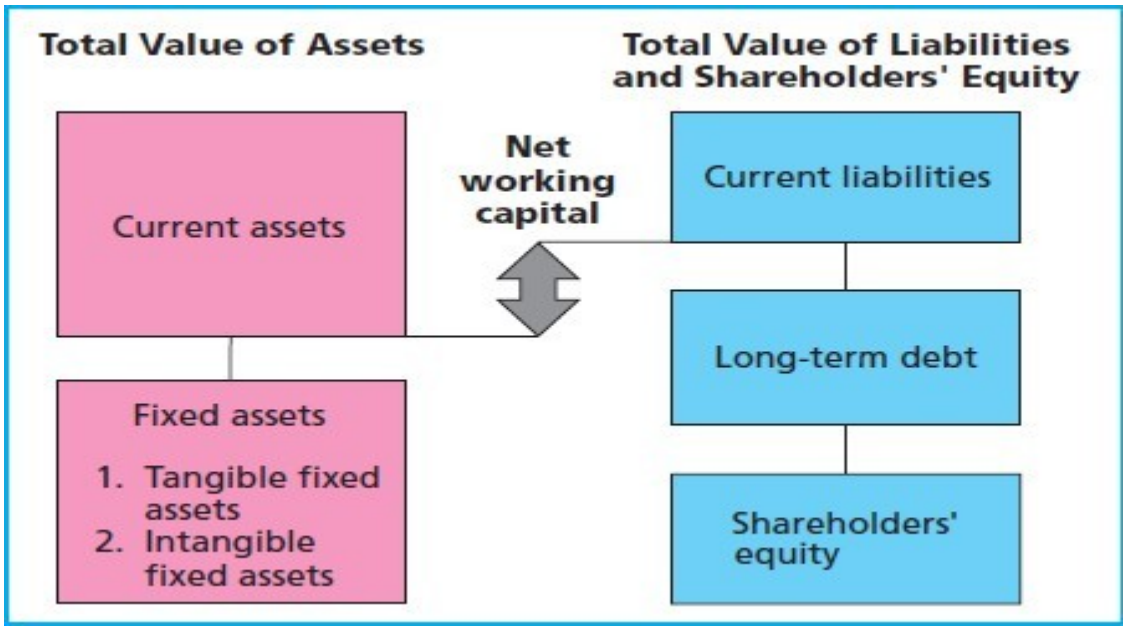
## 2.1.2 Balance Sheet

The balance sheet is a snapshot of the firm. The balance sheet is a summarization of what a firm owns (its assets), what a firm owns (its liabilities), and the difference between the two (the firm's equity) at a given point in time. That is, it shows the account value of a company in a specific date. Usually in a balance sheet, the left hand side lists the assets of the firm, and the right hand side lists the liabilities and equity. The balance sheet equation is:

$$\text{Assets} = \text{Liabilities} + \text{Shareholders' equity}$$

This is the balance sheet identity, and it always holds because shareholders' equity is defined as the difference between assets and liabilities.

Figure 2.2 Structure of Balance Sheet




Resource: Ross, Westerfield, Jordan, page 56.

### Assets

Assets can be classified as either current or current or fixed. A fixed asset is one that has a relatively long usage life. Fixed assets can be either tangible or intangible. Tangible assets can be computers, lands, machines and so on. And intangible assets can be trademark or patent. As to current assets, it has a life usage of less than one year, that is, the current assets will convert into cash within 12 months. For example, it includes inventory which would be normally be purchased and sold within a year and cash. Account receivable (money owed to the firm by its customers) is also current assets.

### Liabilities and Owners' Equity

The firm's liabilities are the first thing listed on the right hand side of the balance sheet. Just like current assets, the liabilities are classified either current or long-term. Current liabilities have a life of less than one year, that is, they must be paid within one year. And account payable is also one example of a current liability. Current liabilities are listed before long-term liabilities. As to long-term debt, it is a loan that firm will pay off in more than one year. Firms borrow in the long term from a variety of sources.

The difference between the total value of the assets and the total value of the liabilities is the shareholders' equity, also called common equity or owners' equity. This feature of the balance sheet is intended to reflect the fact that, if the firm were to sell all of its assets and use of the money to pay off its debts, then whatever residual value remained would belong to the shareholders.

## 2.1.3 Cash Flow Statement

Cash flow statement provides information about company's cash inflows and cash outflows during a period, often a year. Cash flows include inflows and outflows, inflows are the amount of money received during a period, while outflows are the amount of money spent during a period. From the balance sheet identity, the equation of cash flow statement is:

$$\text{Cash flow from assets} = \text{Cash flow to creditors} + \text{Cash flow to stockholders}$$

What it reflects is the fact that a firm generates cash through its various activities, and that cash is either used to pay creditors or paid out to the owners of the firm.

### Cash flow from assets

Cash flows from assets involve three components: operating cash flow, capital spending, and change in net working capital.

Operating cash flow refers to the cash flow that resulting from the firm's day to day activities of producing and selling. To calculate the operating cash flow, depreciation and interest are not included. Taxes are calculated in operating cash flow because it is paid in cash. Operating cash flow can show that whether or not a firm's cash inflows from its business operating are sufficient to cover its everyday cash outflow.

Capital spending refers to the net spending on fixed assets (purchases of fixed assets less sales of fixed assets). Net capital spending is just money spent on fixed assets less money received from the sale of fixed assets. Net capital spending can be negative if the firm sold off more assets than it purchased. The net here refers to purchase of fixed assets net of any sales of fixed assets.

Change in net working capital is measured as the net change in current assets relative to current liabilities for the period being examined and represents the amount spent in net working capital. As the firm changes its investment in current assets, its current liabilities will usually change as well.

### Cash flow to Creditors and Stockholders

The cash flows to creditors and stockholders represent the net payment to creditors and owners during the year. Cash flow to creditors is interest paid less net new borrowing; cash flow to stockholders is dividends paid less net new equity raised.

## 2.2 Common-size analysis

Common-size analysis is a method that analyzing the financial statement data and their changes over time. It involves expressing financial data, including entire financial statements, in relation to a single financial statement item, or base. Items used most frequently as the

bases are total assets or revenue. There are two type of the common size analysis. One of them is horizontal common-size analysis, the other one is vertical common-size analysis.

### 2.2.1 Horizontal common-size analysis

It is an analysis method of the evolution of financial statements over the time or their changes with respect to a given period as a benchmark. Horizontal analysis can refer either to an analysis comparing a specific statement with prior or future time periods or to a cross-sectional analysis of one company with another.

In horizontal common-size analysis, there are two methods to calculate the change of the financial items. One is comparative financial statement method, which is focus on the absolute changes of two years. For another, it is Index-number Teries, which selects a specific period as a benchmark, and then all following periods only compare with this period. Here, we only use the index-number Teries method to make horizontal common-size analysis. The general formula is:

$$a = \frac{X_n}{X_0} \tag{2.1}$$

$a$ - index number

$X_n$ - financial items in the nth year (n=2008,2009,etc).

$X_0$ - financial items in the selected benchmark year

### 2.2.2 Vertical common-size analysis

It mainly analyzes the changes in the proportions of selected benchmarks like total revenues, total assets and total liabilities and so on. The vertical common-size analysis is used to denote a common-size analysis using only one reporting period or one base financial statement.

A vertical common-size income statement divides each income statement items by revenues, or sometimes by total assets (especially in the case of financial situation). And a vertical common-size balance sheet, prepared by dividing each item on the balance sheet by

the same period's total assets and expressing the results as percentages, highlights the composition of the balance sheet. The general formula is:

$$a = \frac{X_n}{\sum Xm} \quad (2.2)$$

$a$ - proportion changes of benchmarks

$X_n$ - financial items in each year (n= 2007,2008,etc).

$\sum Xm$ -total value of the financial items in each year (Total assets, Total revenue, etc)

## 2.3 Financial ratio analysis

This method makes comparison of financial data in the form of financial ratios to assess the financial health of the company. Financial ratios are calculated from financial data and market data, among which is relationship. Financial analyst use financial ratios to compare strengths and weaknesses in various companies. Financial ratios are categorized according to the financial aspect of the business which the ratio measures.

The major ratio classifications are:

**Activity ratios**: measures how efficiently a company performs day-to-day tasks.

**Profitability ratios**: analyze the company's ability to generate profit from invested capital in the form of return during a period.

**Liquidity ratio**: measures company's ability to meets its immediate and short-term obligation.

**Leverage ratios**: measures a company's ability to meet its long-term obligation.

### 2.3.1 Activity ratios

It is also known as asset utilization ratio and operating efficiency ratios, which provides an indication as to how well the company manages various activities, particularly how efficiently it manages its various assets. More efficient asset utilization indicates strong management of company activities. The assets efficiency utilization has a direct impact on liquidity.

There are two forms of ratios: one is days of turnover, another one is number of turnovers.

### *Inventory turnover*

Inventory turnover indicates the resource (money) tied up in inventory and can, therefore, be used to indicate inventory management effectiveness.

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Inventory}} \qquad (2.3)$$

The higher is the ratio, the shorter period the inventory is held. So it indicates highly effective inventory management. Besides, a high inventory turnover ratio can indicates that the company has no adequate inventory, which could potentially hurt revenue. A low inventory turnover ratio relative to the rest of industry could be an indicator of slow moving inventory.

### *Days' sales in inventory（DOH）*

It indicates days of inventory on hand by dividing inventory turnover into the number of days in the accounting period.

$$\text{Days'sales in inventory} = \frac{365\ \text{days}}{\text{Inventory turnover}} \qquad (2.4)$$

For example, if the result is a DOH of 20 days, meaning that, on average, the company's inventory was on hand for about 20 days before it is sold. Or equivalently, the company kept on hand about 20 days' worth of inventory, on average, during the period.

### *Receivables turnover*

This ratio measures the efficiency of the company's credit and collection. It reflects how fast the company collects money from customers.

$$\text{Receivables turnover} = \frac{\text{Revenue}}{\text{Receivables}} \qquad (2.5)$$

The higher is the receivables turnover ratio, the higher efficient credit and collection. Conversely, a low receivables turnover ratio would raise questions about the efficiency of the company's credits and collections procedures.

### *Days' sales in receivables（DSO）*

The number of DSO represents the elapsed time between a sale and cash collection,

reflecting how fast the company collects cash from customers it offer credits.

$$\text{Days'sales in receivables} = \frac{365\,\text{days}}{\text{Receivables turnover}} \tag{2.6}$$

A high receivables turnover will have a lower DSO. For example, if the result is 20, it means it took 20 days to collect receivables during the period time.

### *Payables turnover*

This ratio measures how many times per year the company theoretically pays off all its creditors.

$$\text{Payables turnover} = \frac{\text{Purchases}}{\text{Average trade payables}} \tag{2.7}$$

A payables turnover ratio that is high (low days payable) relative to the industry could indicate that the company is not making full use of available credit facilities; alternatively, it could result from a company taking advantage of early payment discounts. An excessively low turnover ratio (high days' payable) could indicate trouble making payments on time, or alternatively, exploitation of lenient supplier terms.

### *Working capital turnover*

Working capital is defined as current assets minus current liabilities. Working capital turnover indicates how efficiently the company generates revenue with its working capital.

$$\text{Working capital turnover} = \frac{\text{Revenues}}{\text{Average working capital}} \tag{2.8}$$

For example, if the working capital turnover ratio is 5.0, it indicates that the company generates 5 units of revenue for every 1 unit of working capital. A high working capital turnover ratio indicates greater efficiency.

### *Total asset turnover*

The total asset turnover ratio measures the company's overall ability to generate revenues with a given level of assets.

$$\text{Total asset turnover} = \frac{\text{Revenue}}{\text{Assets}} \tag{2.9}$$

For example, if the ratio is 1.5 would indicate that the company is generating the $1.5 of revenues for every $1 of average assets. A higher ratio indicates greater efficiency. A low

assets turnover ratio can be an indicator of inefficiency or of relative capital intensity of business, which helps company to make strategic decisions about management. For example, the company can depend on this ratio to make a decision that whether to use a more labor-intensive(less capital-intensive) approach to its business or a more capital-intensive(less labor-intensive) approach.

## 2.3.2 Profitability ratios

Profitability ratios measure the return earned by the company during a period. Profitability reflects the company's competitive position in the market, and by extension, the quality of its management.

### *Gross profit margin*

Gross profit ratio indicates the percentage of revenue available to cover operating and other expenditures.

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Revenue}} \tag{2.10}$$

Higher gross profit margin indicates some combination of higher product pricing and lower product costs. The ability to charge a higher price is constrained by competition, so gross profits are affected by (and usually inversely related to) competition.

### *Operating profit margin*

This ratio is calculated as gross margin minus operating costs

$$\text{Operating profit margin} = \frac{\text{EBIT}}{\text{Revenue}} \tag{2.11}$$

So an operating margin increasing faster than the gross margin can indicate improvements in controlling operating costs. In contrast, a declining operating profit margin could be an indicator of deteriorating control over operating cost.

### *Net profit margin*

Net profit, or net income, is calculated as revenue minus all expenses.Net income includes both recurring and nonrecurring components. Generally, the net profit margin

adjusted for nonrecurring items offers a better view of a company's potential future profitability.

$$\text{Net profit margin} = \frac{\text{EAT}}{\text{Revenue}} \tag{2.12}$$

For example, if the ratio is 0.5, it means the company will have a net income of 0.5 units for each unit of sales.

### *Pretax profit margin*

Pretax income also called earnings before tax is calculated as operating profit minus interest, so this ratio reflects the effects on profitability of leverage and other non-operating income and expenses.

$$\text{Pretax profit margin} = \frac{\text{EBT}}{\text{Revenue}} \tag{2.13}$$

If a company's pretax margin is rising, primarily as a result of increasing non-operating income, the analyst should evaluate whether this increase reflects a deliberate change in a company's business focus and, therefore, the likelihood that the increase will continue.

### *Return on assets (ROA)*

ROA measures the return earned by a company on its assets. The higher the ratio, the more income is generated by a given level of assets.

$$\text{ROA} = \frac{\text{EAT}}{\text{Assets}} \tag{2.14}$$

The problem with this computation is net income is the return on equity holders, whereas assets are financed by both equity holder and creditors. Interest expenses (the return to creditors) has already been subtracted in the numerator. Therefore there is another method that adds back interest expenses in the numerator. In such cases, interest must be adjusted for income taxes because net income is determined after taxes. So the formula is

$$\text{ROA} = \frac{\text{EAT} + \text{interest income}(1 - \text{tax rate})}{\text{Assets}} \tag{2.15}$$

This measure reflects the return on all assets invested in the company, whether financed with liabilities, debt or equity.

### *Return on equity (ROE)*

ROE measures the return earned by a company on its equity capital, including minority equity, preferred equity and common equity.

$$\text{ROE} = \frac{\text{EAT}}{\text{Equity}} \tag{2.16}$$

A company who has a high return on equity is more capable of generating cash internally. So, the higher a company's return on equity compared to its industry, the better performance of the company.

## 2.3.3 Liquidity ratios

Liquidity ratios which focus on cash flow, measure a company's ability to meet short-term obligation. Liquidity measures how quickly assets are converted into cash. Liquidity ratios also measure the ability to pay off short-term obligation.

### *Current ratio*

This ratio expresses current assets in relation to current liabilities. The current ratio can be affected by various types of transactions. For example, suppose the firm borrows over the long term to raise money. The short-run effect would be an increase in cash from the issue proceeds and an increase in long-term debt. Current liabilities would not be affected, so the current ratio would rise.

$$\text{Current ratio} = \frac{\text{Current Asssets}}{\text{Current Liabilities}} \tag{2.17}$$

A higher ratio indicates a higher level of liquidity (i.e., a greater ability to meet short - term obligations). For example, if the current ratio is 1.00, then it means the book value of its current assets equals the book value of its current liabilities. A lower ratio indicates less liquidity, implying a greater reliance on operating cash flow and outside financing to meet short - term obligations.

### *Cash conversion cycle (net operating cycle)*

The cash conversion cycle, a financial metric not in ratio form, measures the length of time required for a company to go from cash (invested in its operations) to cash received (as a

result of its operations). During this period of time, the company needs to finance its investment in operations through other sources. (i.e., through debt or equity).

$$\text{Net operating cycle} = \text{DOH} + \text{DSO} - \text{number of days of payable} \qquad (2.18)$$

## 2.3.4 Leverage ratios

Leverage ratios, can be also called solvency ratios, which can be refer to a company's ability to fulfill its long-term debt obligation. Leverage ratios provide information regarding the relative amount of debt in the company's capital structure and the adequacy of earnings and cash flow to cover interest expenses and other fixed charges and they come due. Leverage is a magnifying effect that results from the use of fixed costs, and can take two forms: operating leverage and financial leverage. Operating leverage results from the use of fixed costs in conducting the company's business and magnifies the effect of changes in sales on operating income. And financial leverage tends to magnify the effect of changes in EBIT on return flowing to equity holders.

Understanding a company's use of debt can provide us with insight to the company's future business prospects.

### *Debt-to-assets ratio*

This ratio measures the percentage of total assets financed with debt.

$$\text{Debt - to - assets ratio} = \frac{\text{Debt}}{\text{Assets}} \qquad (2.19)$$

For example, a debt-to-assets ratio of 0.4 indicates that 40 percents of the company’s assets are financed with debt. Generally, higher debt means higher financial risk and thus weaker solvency.

### *Debt-to-equity ratio*

The debt-to-equity ratio measures the amount of debt capital relative to equity capital. Interpretation is similar to the preceding two ratios (i.e., a higher ratio indicates weaker solvency).

$$\text{Debt - to - equity ratio} = \frac{\text{Debt}}{\text{Equity}} \qquad (2.20)$$

For example, a ratio of 1.0 would indicate equal amount of debt and equity, which is equivalent to a debt-to-capital ratio of 50 percent. Alternative definitions of this ratio use the market value of stockholders' equity rather than its book value.

### *Financial leverage ratio*

This ratio often can be called leverage ratio, it measures the amount of total assets supported for each one money unit of equity.

$$\text{Financial leverage ratio} = \frac{\text{Assets}}{\text{Equity}} \tag{2.21}$$

For example, a value of 3 for this ratio means that each €1 of equity supports € 3 of total assets. The higher the financial leverage ratio, the more leveraged the company is in the sense of using debt and other liabilities to finance assets. This ratio is often defined in terms of average total assets and average total equity and plays an important role in the DuPont decomposition of return on equity.

### *Interest coverage*

This ratio measures the number of times a company's EBIT could cover its interest payment, that is, this ratio measures how well a company has its interest obligations covered.

$$\text{Interest coverage} = \frac{\text{EBIT}}{\text{Interest payment}} \tag{2.22}$$

A higher interest coverage ratio indicates stronger solvency, offering greater assurance that the company can service its debt (i.e., bank loans, bonds, notes) from operating earnings.

## 2.4 Pyramidal decompositions

Pyramidal decompositions mainly to analyze what drives the value of financial ratios, that is, for example, it will research on the which factors have impact on its value or evolution. The fundamental example of the pyramidal decompositions is the DuPont analysis. The main source of this part is from Hitchner, James (2006).

### 2.4.1 DuPont model

DuPont Model named after the company in which it was developed. It is an expression which breaks ROE into three parts. As we know, ROE measures the return a company generates on its equity capital. So to decompose ROE into its component parts, we can see it directly that which indicator of a distinct aspect of a company's performance that affect ROE, then decomposition allow us to evaluate how these different aspects of performances affected the company's profitability as measured by ROE.

The major advantage of this model is that it highlights the important interplay between effective assets management and firm profitability, which also assists the analyst as an additional tool in risk assessment.

There are several different methods of decomposing ROE. The decomposition presented here is one of the most commonly used. This decomposition illustrates that a company's ROE is a function of its net profit margin, its efficiency and its leverage.

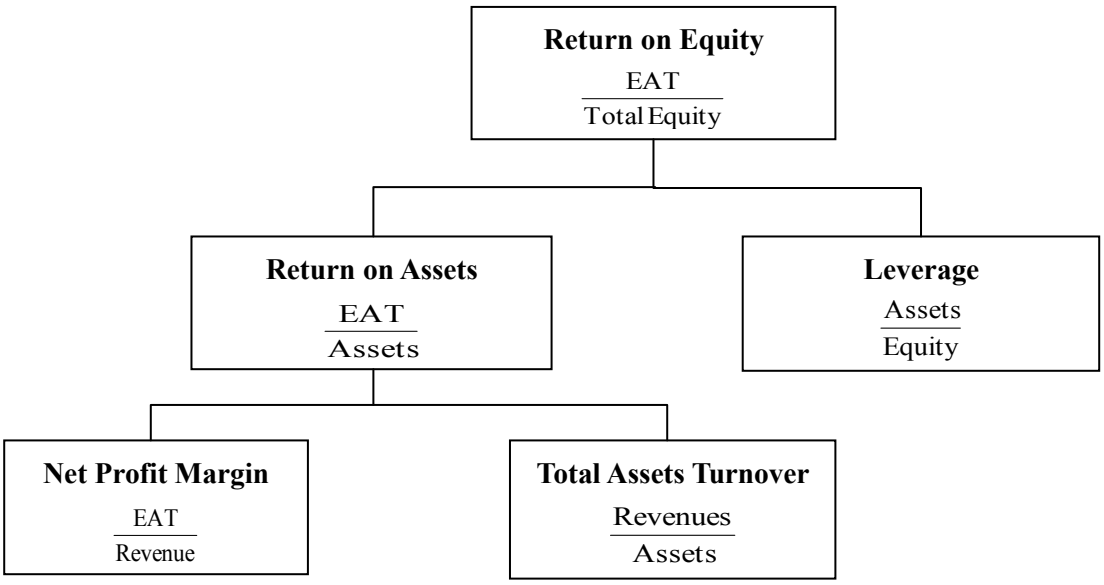
$$\text{ROE} = \frac{\text{EAT}}{\text{Equity}} = \frac{\text{EAT}}{\text{Revenue}} \cdot \frac{\text{Revenue}}{\text{Assets}} \cdot \frac{\text{Assets}}{\text{Equity}} \qquad (2.23)$$

which can be interpreted as;

$$\text{ROE} = \text{Net profit margin} \cdot \text{Assets turnover} \cdot \text{Financial Leverage} = \text{ROA} \cdot \text{Financial Leverage}$$

It can be shown in the figure 2.2 as followed.

Figure 2.3 DuPont Breakdown




**Resources:** Robinson, Greuning, Henry and Broihahn.(2008) P301

The first term in the equation is Net profit margin, an indicator of profitability: how much income a company derives per one money unit of sales. The second term is the assets turnover ratio; it means the efficiency of the company: how much revenue a company generates per one money unit of assets. These two components, net profit margin and asset turnover are decomposed by ROA, which is a function of profitability of and efficiency. The last term is a measure of financial leverage, an indicator of solvency: the total amount of a company's assets relative to its equity capital.

## 2.5 Influence quantification

Influences quantification enables to analyze indicators, whose change has caused change in the basic ratio. On the basis of solution principles, we can divide four methods:

1)Chain(gradual change )method,

2)Decomposition method with a residue

3)Logarithmic decomposition method

4)Functional decomposition method

When we calculate them through the first or the second method, it is usually assumed that if one of the indicators changes the values for the other indicators are fixed. However, for the third and the forth method are totally different.

Here we mainly talk about the first and the third method, that is, the gradual change method and the logarithmic decomposition method.

### 2.51 Gradual changes analysis

This method enables to quantify the change in the basic ratio caused by change in the component ratio.

In the case the formula is:

$$\begin{aligned}
\Delta \mathrm{X} a_1 &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} \cdots a_{n,0} \cdot \frac{\Delta \mathrm{Y_X}}{\Delta \mathrm{X}} \\
\Delta \mathrm{X} a_2 &= a_{1,1} \cdot \Delta a_2 \cdot a_{3.0} \cdots a_{n,0} \cdot \frac{\Delta \mathrm{Y_X}}{\Delta \mathrm{X}} \\
&\vdots \\
\Delta \mathrm{X} a_n &= a_{1,1} \cdot a_{2,1} \cdot a_{3,1} \cdots \Delta a_n \cdot \frac{\Delta \mathrm{Y_X}}{\Delta \mathrm{X}}
\end{aligned} \tag{2.24}$$

Symbols:

x – basic ratio

Δx –absolute change in the basic ratio

a –component ratio

Δa –absolute change in the component ratio

$\frac{\Delta \mathrm{Y_X}}{\Delta \mathrm{X}}$ -the x change of the top indicator

## 2.52 Logarithmic decomposition analysis

The advantage of logarithmic decomposition analysis is that we need just one formula for the impact quantification regardless of how many component ratios we have. The impact of the i-th component ratio on the change in the basic ratio is calculated as follows:

$$\Delta \mathrm{X}_{ai} = \frac{\ln \mathrm{I}_{ai}}{\ln \mathrm{I_X}} \bullet \Delta \mathrm{X} \tag{2.25}$$

Symbols:

x – basic ratio

Δx –absolute change in the basic ratio

$I_{\mathrm{x}} = \frac{x_1}{x_0}$ - index of change in basic ratio

$I_a = \frac{a_{1,}}{a_{,0}}$ - index of change in component ratio

# 3 Characteristics of Metro AG Company

This part firstly introduces the information, structure and culture of Metro AG Company and the company compares with other two competitors, Carrefour and Wal-Mart. Then we use the common-size method to analysis the change tendency of financial items in financial statements and conclude the general financial performance of the company from 2007 to 2011.

## 3.1 Introduction of Metro AG[1]

METRO AG, a German global diversified retail and wholesale/cash and carry group based in Düsseldorf, Germany. It has the largest market share in its home market, and is one of the most globalised retail and wholesale corporations. Their operating business involves self-service wholesale trade, hypermarkets, consumer electronics stores, department stores and online trade. They conduct their business activities autonomously in the marketplace and provide private and professional customers in 33 countries across Europe, Asia and Africa with a comprehensive range of products and services. Some 280,000 employees from 180 nations are working at over 2,200 outlets in 32 countries in Europe, Africa and Asia. In the process, they continuously tap new sales channels in order to establish long-term relationships with existing customers and to reach new target groups. METRO Group's strategy is designed to create economic, environmental and social value: on behalf of customers, employees, investors and society. METRO AG refocused its strategy in 2011 to boost its competitiveness across all sales lines. Sales growth is their top priority. The goal of creating more value of customers based on the basis of five priorities, they are: Transform, Grow, Improve, Expand and Innovate.

[1] The main source is from annual report in company's official website:
http://www.metrogroup.de/internet/site/annual2011/node/259147/Len/index.html
https://en.wikipedia.org/wiki/Metro_AG

## 3.2 History of Metro AG[2]

In 1996, within a period of ten months metro AG is formed through a merger of the retail companies Asko Deutsche Kaufhaus AG, Kaufhot Holding AG and Deutsche SB-Kauf AG. On July 25, 1996, Metro AG shares are listed on the German stock Index DAX for the first time. With a market capitalization of 12.07 billion German markets, Metro AG ends the year 1996 as one of the 20 largest publicly listed companies in Germany. It also pushes its internationalization process: the company expands into Romania and China. In 1997, Metro AG further drives its expansion out of Germany: international moves include opening the first Makro Cash&Carry wholesale outlet in the Czech Republic and the entry of Real into Polish market. The year 1998 is the most successful year in company history. Earnings before interest and taxes increase by 63.5 percents to 1.6 billion German marks. Progress is also made in internationalization: Media markets expand into Poland. 2001 is the year of daunting business challenges. The reason includes stagnation in German retail, as well as a generally unfavorable economic situation. Despite the market trend, Metro AG closes the year with positive business results. The company makes further progress in its international expansion: 80 new locations are added in 2001, including the first Metro Cash&Carry wholesale outlets in Russia. 2002, Metro AG takes a further step in consolidating its position as a modern, international wholesale and retail company. The brand, "Metro Group-The spirit of Commerce", express the key attributes of the corporate identity developed over the past years: innovation, focus on success and internationality. The Metro group enters the Japanese and Vietnamese markets. By the end of the 2004, the Metro Group is operating in 30 countries worldwide. In 2008, after selling its 245 extra supermarkets, the Group's focus in foods retail services will be on its real hypermarkets. Metro group kicks off 2009 with an efficiency and value enhancement program. The program "shape of 2012" focuses more strongly on the customer and market. The company tries to simplify its structure and make it more transparent and efficient. The aim of "shape of 2012"" is to achieve maximum possible growth and customer orientation. In 2010, the retail and wholesale group presents itself at the EXPO world's Fair in shanghai, which features the motto" Better city, better life".

[2] The history source of the company comes from the timeline on the company's official website: http://www.metrogroup.de/internet/site/metrogroup/alias/mgroup_history/Len/index.html

## 3.3 Structure and Culture of the Company[3]

METRO GROUP is one of the most important international retailing companies in the world. There are so many sales brands of METRO GROUP take leading market positions in their respective segment and keep their competence position in trade and retail market.

### 3.3.1 Structure of the Company

Picture 3.1 An overview of the corporate structure


- METRO Cash & Carry, the world's market leader in cash & carry
- Real hypermarkets
- Media Markt and Saturn, Europe' s leader in consumer electronic retailing
- Galeria Kaufhof , the system leader in the department store business
- METRO PROPERTIES

All sales brands of METRO GROUP take leading market positions in their respective segment and demonstrate their competence in trade and retail on a daily basis. The group has a clear portfolio: METRO AG stands at the top as the strategic management holding company. The operative business is divided into the business segments of wholesale, food retail, non-food specialty stores and department stores.

### METRO Cash & Carry

Metro Cash & Carry is an international self-service wholesale retail in the world. The operating countries rang from Europe, some countries of Asia to North Africa. METRO Cash

[3] The main source from website:
http://www.metrogroup.de/internet/site/metrogroup/node/9280/Len/index.html

& Carry is the leading international player in self-service wholesale: customer-focused, international and innovative. International expansion is a significant element of the corporate strategy. In about four decades, METRO operates 743 outlets in 29 countries. Metro Cash & Carry is unlike other retail chains such as Wal-Mart, Carrefour. Those retail chain targets at professional customers rather than end customers. While cash & carry concept is on self-service and bulk buying.

## Real hypermarkets

Real is a European hypermarket, a member of the German trade and retail giant Metro AG. Starting in 1992, Real was created from the merger of 13 hypermarket operators with different sales concepts. Until now, there are 421 locations in the world and total number of articles in product line is up to 800000. Real mainly offers foods, household goods, electrical appliance and books, etc. In addition, it provides many own-brands products such as *real Bio* organic products and *Watson* consumer electronics.

## Media Markt and Saturn

Media Markt is the leader in the consumer electronics retailing in German and European market, and it is the second largest in the world after American retailer Best Buy. The first Media Markt opened in an industrial park in Munich in 1979. Until December 31th, 2012, there are 704 locations in the world and it spreads over 15 countries.

Within METRO GROUP, Saturn embodies the concept of consumer electronics stores established mostly in central downtown locations with an extraordinarily wide assortment. Still today, Saturn is famous for its comprehensive assortment of consumer electronics.

## Galeria Kaufhof

In 1879, the young merchant Leonhard Tietz opened a small textile shop in Stralsund, thereby laying the foundation for Kaufhof. On a selling space of 25 square meters, he sold yarns, buttons, cloth and woolens. His business philosophy was based on a simple idea: quality at fixed prices and only against cash. In 1897, he relocated the head office of his

company to Cologne. Starting from there, a store chain was created. Galeria Kaufhof GmbH is the management company of the department stores operated by METRO GROUP. These department stores are mostly located in city centers - above all in prime inner-city locations. It has 137 locations in the world. And the sales in 2012 are close to €3.1 billion.

### Metro properties

METRO PROPERTIES is the real estate entity of METRO GROUP. With 2,200 retail locations in 32 countries, the company is managing the most international retail property portfolio worldwide. The core responsibility of METRO PROPERTIES is to enhance the value of the real estate assets in the long term through an active and strategic portfolio management. The service range also includes the energy management for the retail properties, facility management for the commercial, administrative and warehouse locations as well as the management of shopping centers in Germany, Poland and Turkey.

## 3.3.2 Culture of the Company

Under the umbrella of the METRO GROUP, a shared corporate culture has emerged, creating an identity-providing code of values that extends across the business segments. The culture's supporting pillars are:

- Binding corporate principles that apply to all sales divisions as well as joint business goals and concepts for achieving goals
- The shared commitment of profitable growth and the pursuit of market leadership in each segment
- The international focus of METRO GROUP and an intense commitment to innovation as supporting pillars of business success

# 3.4 Main competitors of Metro AG

As one of the top ten retailers in many years in the world, the main competitors of the Metro are Wal-mart and Carrefour.

Table 3.1 Top ten retailer supermarket in 2009 in the world[4]

| Top 250 rank | Name of company | Country of origin | 2009 retail sales (US$mil) | 2009 retail sales growth | 2009 net profit margin | 2009 return on assets | 2009 asset turnover |
|---|---|---|---|---|---|---|---|
| 1 | Wal-Mart | US | 405,046 | 0.9% | 3.6% | 8.7% | 2.4 |
| 2 | Carrefour | France | 119,887 | -1.2% | 0.5% | 0.8% | 1.7 |
| 3 | Metro | Germany | 90,850 | -3.2% | 0.8% | 1.5% | 1.9 |
| 4 | Tesco | UK | 90,435 | 4.8% | 4.1% | 5.1% | 1.2 |
| 5 | Schwarz | Germany | 77,221 | 1.4% | n/a | n/a | n/a |
| 6 | Kroger | US | 76,733 | 1.0% | 0.1% | 0.2% | 3.3 |
| 7 | Costco | US | 69,889 | -1.5% | 1.5% | 4.9% | 3.2 |
| 8 | Aldi | Germany | 67,709 | 3.8% | n/a | n/a | n/a |
| 9 | Home Depot | US | 66,176 | -7.2% | 4.0% | 6.5% | 1.6 |
| 10 | Target | US | 63,435 | 0.9% | 3.8% | 5.6% | 1.5 |
| Top 10* | | | $1,127,381 | 0.2% | 2.6% | 5.3% | 2.0 |
| Top 250* | | | $3,760,194 | 1.2% | 3.1% | 4.9% | 1.6 |
| Top 10 share of total | | | 30.0% | | | | |

*Sales-weighted, currency-adjusted composite growth rate
Source: Published company data and Planet Retail

The top ten retailers in the world in the world are Wal-mart, Carrefour, Metro, Tesco, Schwarz, Kroger, Costco, Aldi, Home Depot and Target.

## 3.4.1 Wal-mart[5]

**Wal-Mart Stores, Inc.**

Branded as **Wal-Mart**, is an American multinational retail corporation that runs chains of large discount department stores and warehouse stores. The company is the world's third largest public corporation, according to the Fortune Global 500 list in 2012, the biggest private employer in the world with over two million employees, and is the largest retailer in the world. Wal-Mart remains a family-owned business, as the company is controlled by the

[4] The resource of top ten retailers in the world is from website: http://www.stores.org/STORES Magazine January 2011/global-powers-retailing-top-250-highlights#.UX0ekWtWY1o

[5] The information about Wal-mart is from the website: http://en.wikipedia.org/wiki/Walmart

Walton family, who own a 48 percent stake in Wal-Mart. It is also one of the world's most valuable companies.

Wal-Mart has 8,500 stores in 15 countries, under 55 different names. The company operates under the Wal-Mart name in the United States, including the 50 states and Puerto Rico. It operates in Mexico as Walmex, in the United Kingdom as Asda, in Japan as Seiyu, and in India as Best Price. It has wholly owned operations in Argentina, Brazil, and Canada. Wal-Mart's investments outside North America have had mixed results: its operations in the United Kingdom, South America, and China are highly successful, whereas ventures in Germany and South Korea were unsuccessful.

Table 3.2 Comparison between Metro and Wal-Mart

| | company | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|
| Revenue | Metro | 64,210 | 67,956 | 65,529 | 67,258 | 66,702 |
| | Wal-Mart | 344,759 | 373,821 | 401,087 | 405,132 | 418,952 |
| Increase | Metro | 7.23% | 5.83% | -3.57% | 2.64% | -0.83% |
| | Wal-Mart | 11.60% | 8.40% | 7.30% | 1.00% | 3.40% |

Resource: The data of the Metro Group is from the Annual Report 2007 to 2011, also available in the income statement in Annex 1. The data of Wal-mart are from its Annual Reports.

Compared with the top one retailer company in the world, the net sales of Metro is definitely less than the revenue of Wal-Mart. The first major reason is that the number of the stores. For Metro, there are 2243 locations at the end of 2012. However, the number of retail units of Wal-Mart is almost five times of Metro, it operates more than 10700 retail units in 27 countries. Besides, for these five years, the revenue of Wal-Mart is increasing all the time. Even in the 2009, which year is suffering the financial crisis, the increase of revenue is positive. However, for Metro in 2009 and 2011, it has a negative increased compared with previous year. The goal for Wal-Mart is to use cheaper price to attract more long standing customers, and its locations' area are usually larger than the other retailer companies.

### 3.4.2 Carrefour[6]


**Carrefour S.A.**

It is a French multinational retailer headquartered in Boulogne Billancourt, France, in Greater Paris.It is one of the largest hypermarket chains in the world (with 1,395 hypermarkets at the end of 2009), the second largest retail group in the world in terms of revenue, and the third largest in profit (after Wal-Mart and Tesco). Carrefour operates mainly in Europe, Argentina, Brazil, China, Dominican Republic, United Arab Emirates, Qatar and Saudi Arabia, but also has shops in North Africa and other parts of Asia, with most stores being of smaller size than hypermarket or even supermarket. Carrefour means "crossroads" and "public square" in French. Previously the company head office was in Levallois-Perret, also in Greater Paris.

Table 3.3 Comparison between Metro and Carrefour

| | company | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|
| Revenue | Metro | 64,210 | 67,956 | 65,529 | 67,258 | 66,702 |
| | Carrefour | 82,148 | 86,967 | 85,963 | 90,099 | 81,271 |
| Net income | Metro | 1,001 | 989 | 519 | 936 | 741 |
| | Carrefour | 1,868 | 1,256 | 385 | 382 | 371 |

Resources: The data of the Metro Group is from the Annual Report 2007 to 2011, also available in the income statement in Annex 1. The data of Carrefour are from its Annual Reports.

Compared with Wal-Mart, the revenue of Metro is more close to the Carrefour. Especially in 2011, the gap is the least. For net income, except 2007 and 2008, for three other years, Metro got more than Carrefour. I think one more reason that caused the net income of Carrefour declined is that “Boycott Carrefour” demonstration activity in China in 2008, because of some political conflicts between China and France, some Chinese reject to

[6] The main source of the Carrefour is from http://en.wikipedia.org/wiki/Carrefour

shopping in the Carrefour, which caused Carrefour shut down earlier. While from them, there is some food problems in Carrefour followed, which totally shaped Carrefour a negative image. While in last two years, the main part caused the sales of Carrefour decreased is that in Europe. It is said that particularly in north Europe, like Italy, the hard living condition made residents demands decreased sharply. Compared with Carrefour, Metro's ability to make profit is relatively stable, except in 2009, the affection of financial crisis made a sharply reduction in this year. And in last two years, through the control of its company's management structure and capital structure, the revenue get a slightly bounce.

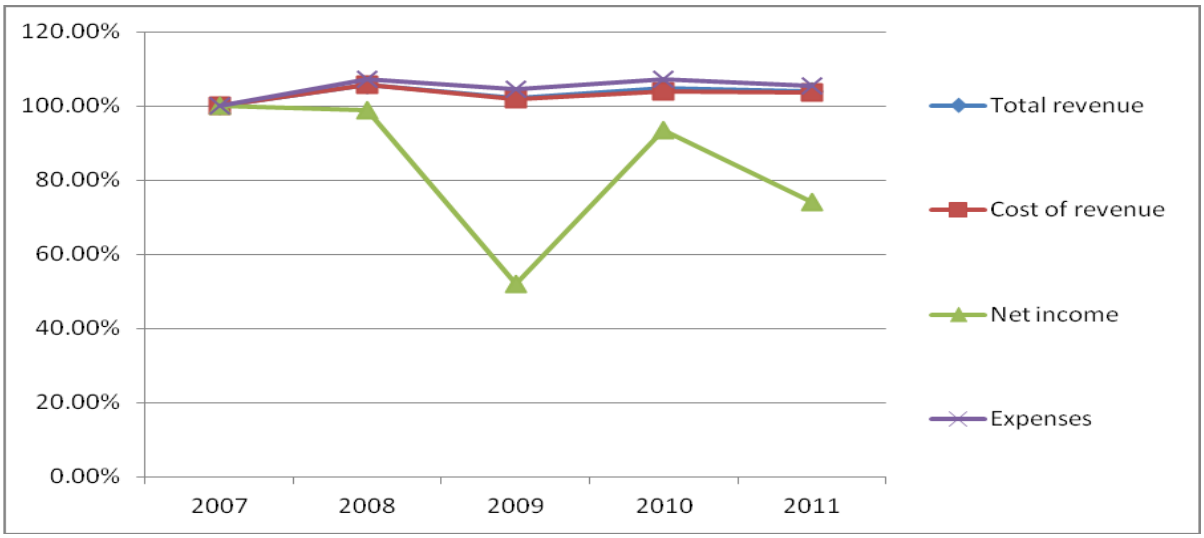
## 3.5 Common-size analysis

Here we use common-size analysis method to analyze main financial items in the financial statements to get a general view of the financial situation of the company. There are mainly two methods in this part. One is horizontal common-size analysis; another is vertical common-size analysis.

### 3.5.1 Horizontal common-size analysis of Income statement

We use the data from Annex 1, Annex 4 and formula (2.1) to calculate the result in the chart 3.1. Every item is compared with the percentage in 2007.

Chart 3.1 Horizontal common-size Income Statement

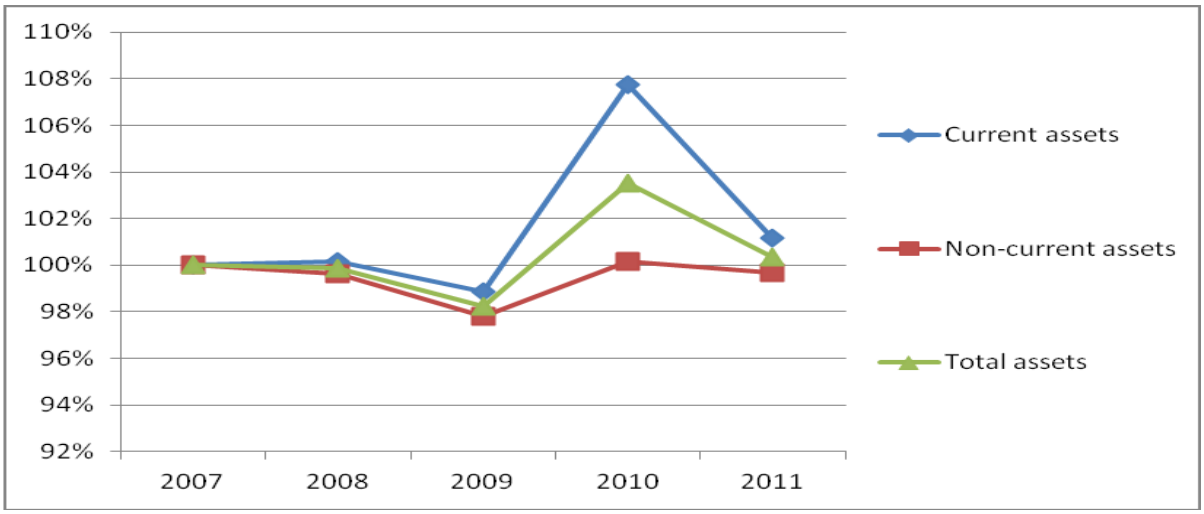


In this chart 3.1, we can see that in general, the total revenue in 2011 is more than the revenue in 2007 even though there are some floating changes in the years between them. In 2008, it has the highest total revenue. From the annual report 2008 of Metro AG, it says "*Due to despite the fact that market conditions became increasingly challenging during the course of the year and negative currency effects reduced international sales growth by 0.3 percents point, the international share of sales reached a new all-time high.*" And Extra supermarkets and the Alder fashion stores are included in the financial statement this time. In 2009, the company played worst and had a terrible financial result. In this year, Group sales in Germany remained roughly stable because of negative currency effects. It can attributable to the lower number of new stores opening in this year. Of course the economic and financial crisis had some effects on the Metro Group in 2009, the negative development in Eastern Europe also is a big reason which caused the bad performance in 2009. However, in 2007, it has the best result of the net income, secondly is 2008. The earning position is impacted most heavily by investment income. Investment income essentially reflects the economic development of Metro Group companies. As to the expenses, 2008 is the worst year which had most on it due to the big amount of operating cost.

### 3.5.2 Horizontal common-size analysis of Balance Sheet

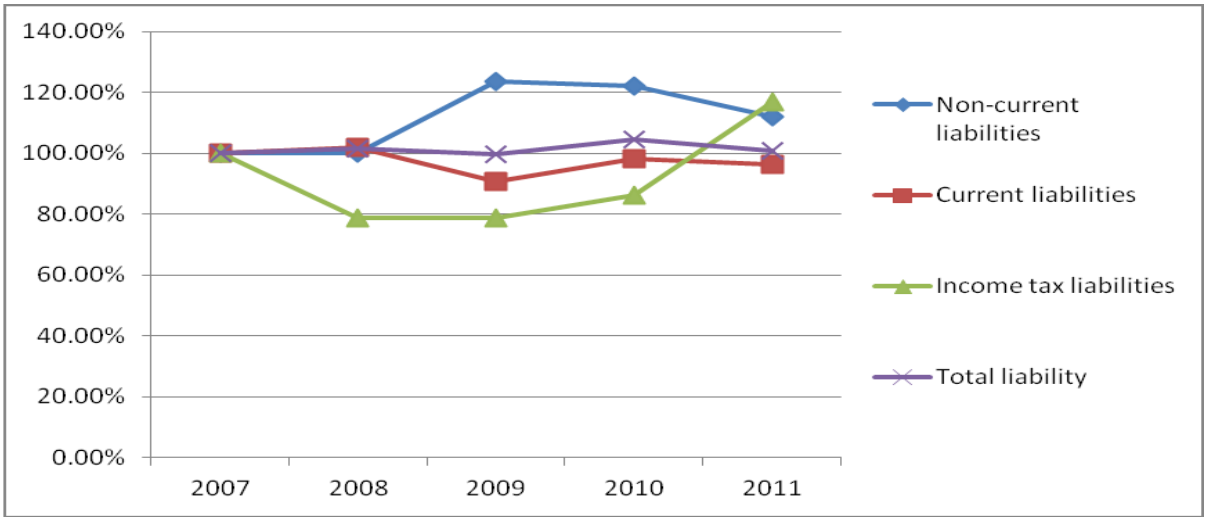
We use data from Annex 2, Annex 6, and formula (2.1) to calculate the result in the chart 3.2. Every item is compared with the percentage in 2007.

Chart 3.2 Horizontal common-size of assets of Balance Sheet



The total assets keeps at a relatively the same standard compared with it in 2007. Bur to be more specific, the company performs best in 2010, because in this year, receivables increased by 1165.7 million. From the annual report of the company, it says "Aside from higher receivables in the context of newly created transfer price system, this increase is contributable to profit entitlements towards Group companies". As to current assets, except in 2010, all other years keep at a level. It may be that cash and cash equivalent and investment properties makes a big contribution to the increase of the total assets. In the 2009, it has the least non-current assets and in general, it performs worst on the respect of assets. The main reason is that in 2009, receivables from associated companies declined €579.1 million than the previous years.

Chart 3.3 Horizontal common-size liabilities of Balance Sheet

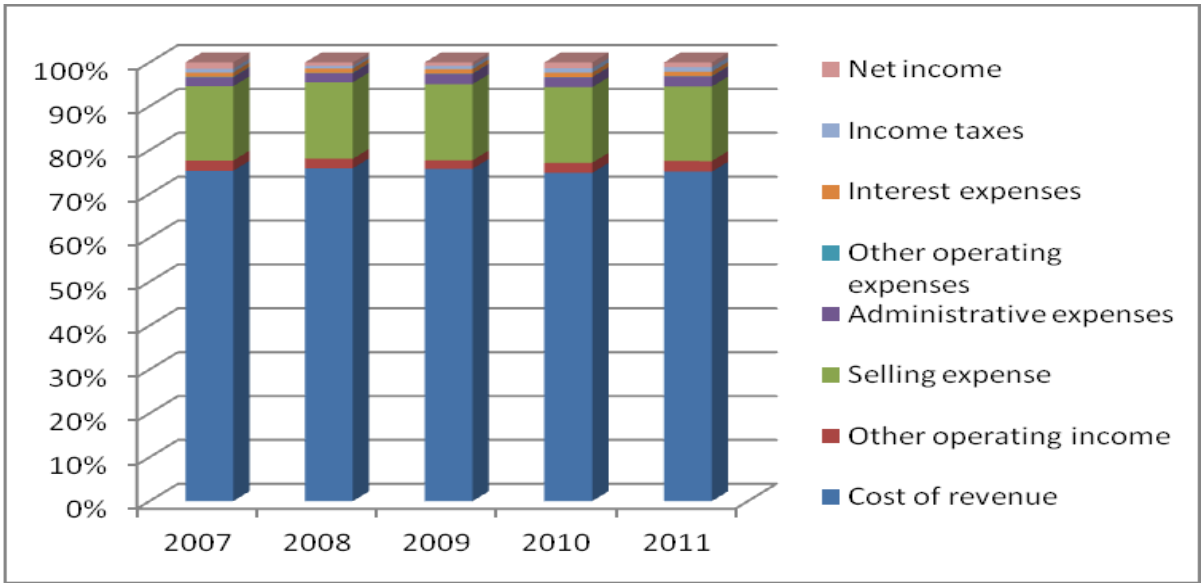



From the chart3.3, compared with 2007, in the previously years before 2011, the income tax liabilities is lower than 2007, but in 2011, it is higher about 50% than the one in 2007. As to the current liabilities, every year almost keeps at a same level. In 2009, it has the highest non-current liabilities, even though, the total liabilities still kept at the almost the same level as 2008. Because of the harsh financial situation in 2009, company has to learn to control the liabilities management to decrease the debt level. So company adjusted the capital structure of the company so that the company can make less costs. And income tax liabilities, it has the highest result of it in 2011. While in 2009, the Metro has the lowest income tax liabilities.

### 3.5.3 Vertical common-size analysis of Income Statement

We use the data from Annex 1, Annex 5 and formula (2.2) to make the chart 3.4. Every item is compared with the percentage of revenue.

Chart 3.4 Vertical common-size of Income statement




We can see from the chart that the cost of the revenue has some slightly changes in the five years but they all keep at a percentage of about 79% of the total account of its own year. It has only increased in 2011 .The selling expense and administrative expenses have slightly increased. When we minus all expenses and income taxes and get the result of the net income, we can see that every year has gradually decreased except the year 2010, which the program "shape 2012" showing effects. Because in the finance 2010, "shape 2012" contributed € 527 million to earnings compared with € 208 million in the previous years. However recently , the cost of productions gets higher and higher and the market competition get stronger and stronger, the situation of net income of company in 2011 decreased again.

It can be seen that for every year, the structure of the income statement is almost the same, which means the proportion of each item hasn't changed much every year. The cost of revenue has taken nearly 80% of the total revenue. The second biggest part is selling expenses that are about 18% of the total every year. The other operating income has some slightly changes every year.

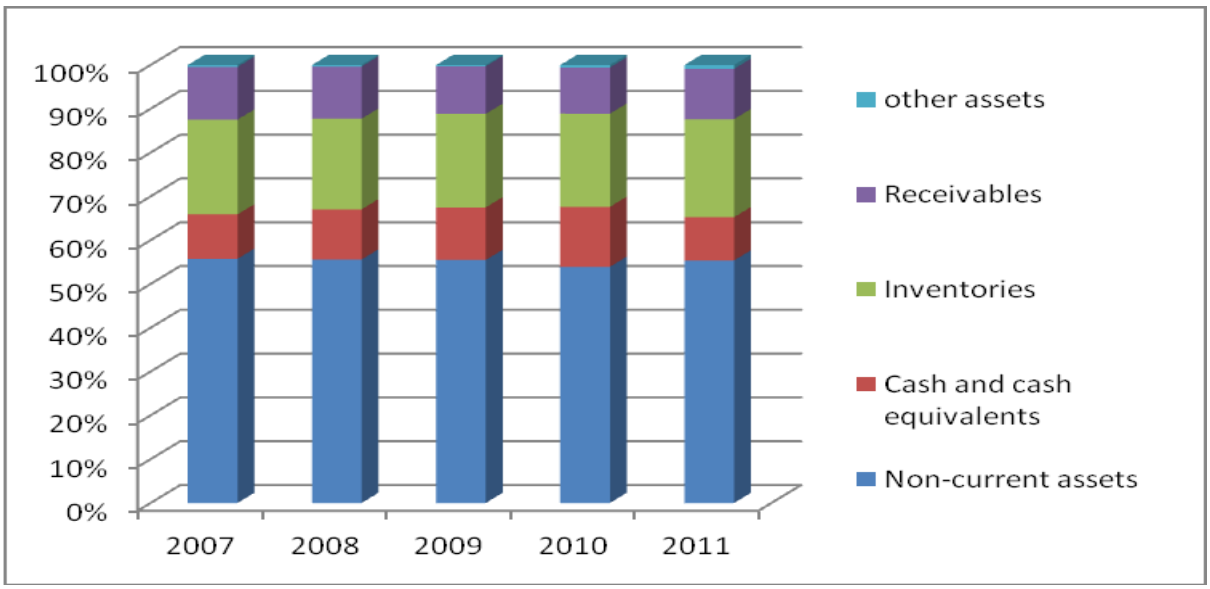
## 3.5.4 Vertical common-size analysis of Balance Sheet

We use the data from Annex 2, Annex 7 and formula (2.2) to make the chart 3.5, chart3.6 and chart 3.7.

## Vertical common-size analysis of assets

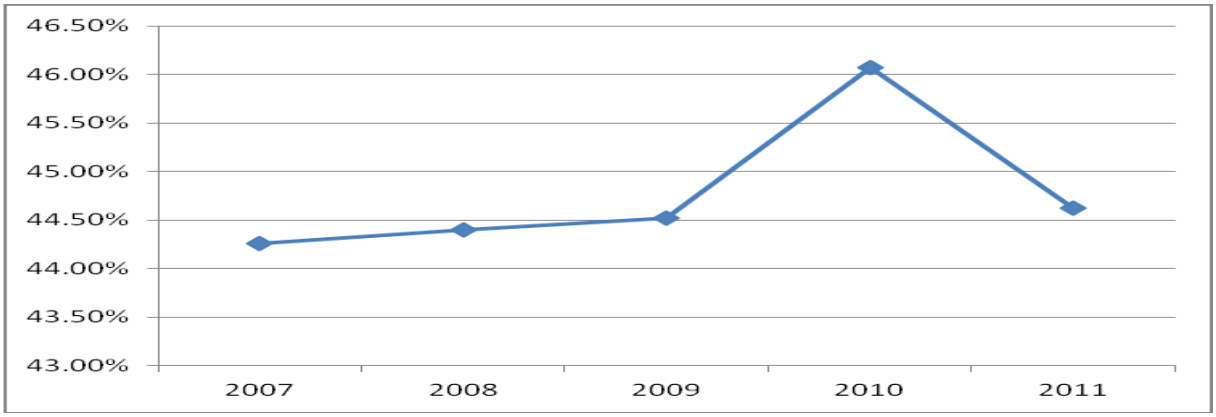
Every item is compared with the percentage of total assets.

Chart 3.5 Vertical common-size analysis of assets




From the chart 3.5 we can see that the proportion of each year has some small changes. The inventories of each year have slightly changed, but all keeps at about 21% of the total assets. In 2008, the company has the least receivables compared to the total assets. Basically, the non-current assets take the most part of the total assets. Cash and cash equivalents has changed every year and in 2010, the company performed best. Inventories seem keeps at a same proportion level every year. While the receivable decreased from 2007 to 2010, fortunately, it increased in 2011.

Chart 3.6 Changes of Current assets from 2007 to 2011

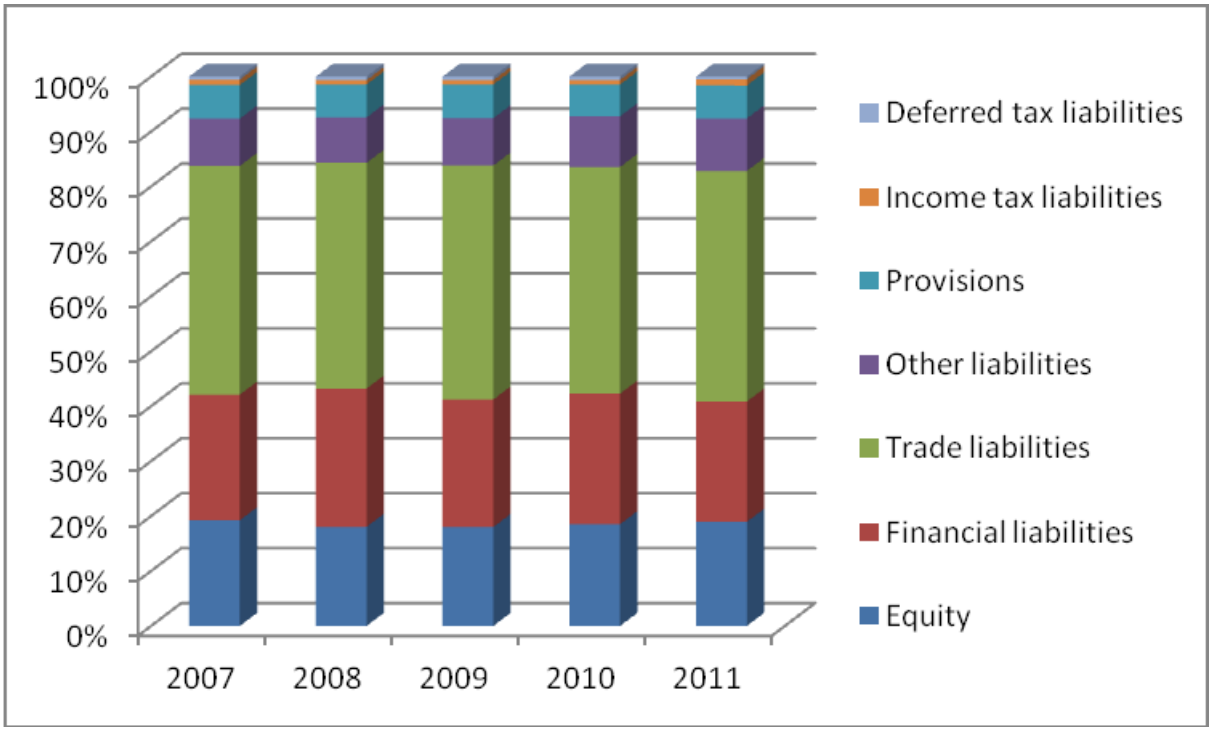


In the chart 3.6 we mainly research on the current assets. The current assets mainly include receivables, inventories and cash and cash equivalents. From the chart we can see that in 2010 the company has the highest result of the current. From the table , we can see in that year the cash and cash equivalents has contributed a lot because it has taken 13.69% of the total assets in 2010, it is the highest result compared to the rest four years. Although the year 2007 has the highest proportion of receivables, but the cash and cash equivalents is too low.

## Vertical common-size analysis of liabilities and equity

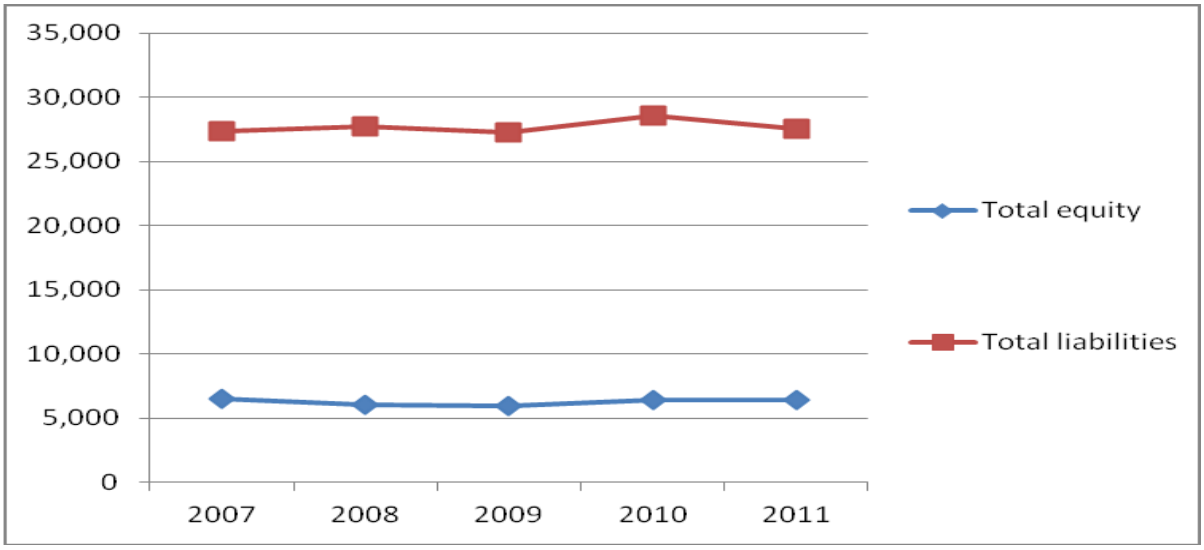
Every item is compared with the percentage of total liabilities and equity.

Chart 3.7 Vertical common-size Equity and liabilities




In this chart we can see that the trade abilities present a large proportion of the total equity and liabilities. The structure of each item has no big differences in each year. Equity is relatively stable in the proportion of total liabilities and equity in these five years; it takes about 20% each year. So liabilities take about 80% of total. Metro group as one of the biggest retail company in the world, it needs money to operate and manage. Compared with financing money to equity, borrowing money has less cost of capital.

Chart 3.7 Vertical common-size analysis of liabilities and equity




In five years, there is not a huge change in the amount of the liabilities and equity. But we can see that in the year 2010, the total has the highest amount. While 2009 has the lowest amount. And it shows that the liabilities take the biggest composition. Equity has no obviously changes either.

# 4 Financial analysis of Metro AG Company

In this chapter we analyze the financial statement of the company Metro AG from 2007 to 2011 mainly by the method Financial Ratio Analysis. Through the calculation, we can see the more financial performance situation of the company and comment on the situation of it. All the data used can be found in the annual report of the company Metro AG, also in Annex 1 and Annex 2.

## 4.1 Financial ratios analysis

After the common-size analysis, we only can know a structure and outlook of the financial situation of the company Metro Group. But if we need to know more about the specified details of the company, we use financial ratios to analyze many separate aspects of the financial operation.

### 4.1.1 Activity Ratios

Table 4.1 Data used in the activity ratios analysis

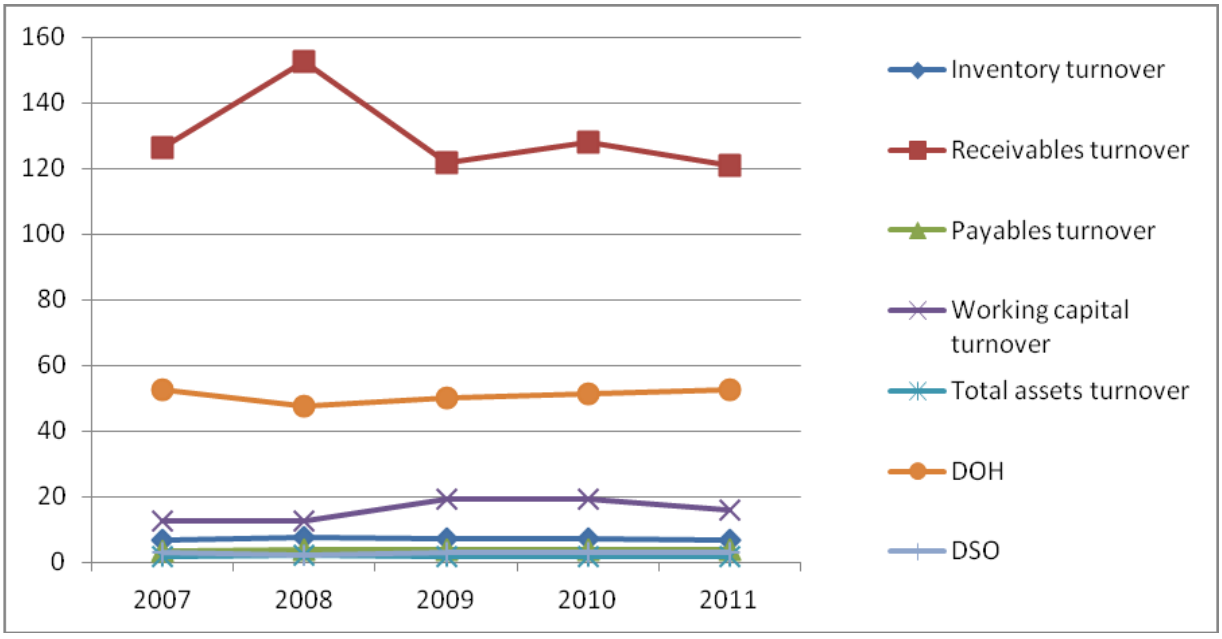
| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Total revenue | 64,210 | 67,956 | 65,529 | 67,258 | 66,702 |
| Total assets | 33,872 | 33,825 | 33,282 | 35,067 | 33,987 |
| Cost of goods sold | 50,810 | 53,636 | 51,664 | 52,865 | 52,700 |
| Inventory | 7,328 | 7,001 | 7,110 | 7,458 | 7,608 |
| Receivables | 508 | 446 | 539 | 526 | 551 |
| Working capital account | 5016 | 5365 | 3366 | 3462 | 4131 |
| Payables | 14,088 | 13,839 | 14,050 | 14,393 | 14,267 |

According to the data in table 4.1 and formulas we get the results of activity ratios. Inventory turnover is calculated by formula (2.3). DOH is counted by formula (2.4). Receivables turnover is calculated by formula (2.5). DSO is calculated by formula (2.6). Payable turnover is counted by formula (2.7). Working capital turnover is calculated (2.8) and Total assets turnover is calculated by the formula (2.9).

Table 4.2 Activities ratios

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Inventory turnover | 6.93 | 7.66 | 7.27 | 7.09 | 6.93 |
| Receivables turnover | 126.40 | 152.37 | 121.58 | 127.87 | 121.06 |
| Payables turnover | 3.61 | 3.88 | 3.68 | 3.67 | 3.69 |
| Working capital turnover | 12.80 | 12.67 | 19.47 | 19.43 | 16.15 |
| Total assets turnover | 1.90 | 2.01 | 1.97 | 1.92 | 1.96 |
| DOH | 52.64 | 47.64 | 50.23 | 51.49 | 52.69 |
| DSO | 2.89 | 2.40 | 3.00 | 2.85 | 3.02 |

Chart4.1 Activity ratios




## Receivables turnover

According to the table 4.2 and chart 4.1 we can see that the receivables turnover has some slightly fluctuations over these years. Among five years, in 2008, the receivables turnover is the highest, it reached 152.37. Because receivables in 2008 are the least among five years, and also in this year, net sales of Metro get the top among five years. While in 2009, the ratio decreased sharply, the main reason may be in this year, the Metro get less new stores open and influenced by the financial crisis caused by European even America. The last year 2011 has the lowest ratio of 121.06.

The higher is the ratio, the quicker the conversion of receivables into cash. And it also indicates the liquidity of receivable is high. So in 2008, it has the highest liquidity of

receivables. In general, the ratios are higher than 120, so it indicates the abilities of Metro Group to collect money from customers are great.

## Days' sales in inventory (DOH)

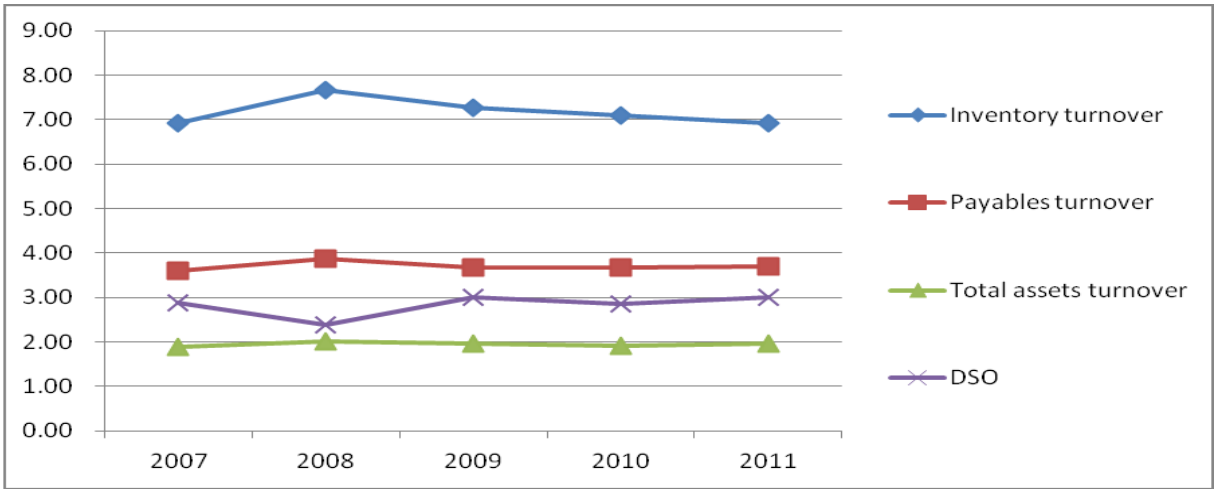
From the table 4.2 we can see that the inventory in the Metro Group will keep less than at most 53 days before it is sold. As we know compared with inventory turnover ratio, the higher the ratio, the shorter the period that inventory is held and so the lower days' sales in inventory. So in 2008, the result is the least, the inventory can be sold quickly. While in 2011, the result is the highest.

## Working capital turnover

From the chart 4.1 we can see the fluctuation of sales to net working capital is obviously from 2008 to 2009. The ratio in 2009 has got a peak among five years. Then in the following years, it kept at a relatively stable level. The main reason is probably because in 2009 the working capital is the least. Net working capital is the difference between current assets and current liabilities, in 2009, the current liabilities and current assets are both less than the average level of the rest four years, the company get more revenue for one unit of working capital in 2009. Compare with some companies that working capital only can be near zero or negative, Metro Group has a great ability on generate money on its capital.

Then we compare inventory turnover, payables turnover, total assets turnover and DSO in a more specific and clearly way.

Chart 4.2 Activity ratios



## Inventory turnover

Inventory turnover ratio is very essential of operations for many companies. Because it can indicate the resources which tied up in inventory.

From the chart 4.2 and table 4.2, we can see that in the previous two years, the ratio has increased from 6.934 to 7.661. And in 2008, it has the highest inventory turnover ratio. The main reason is that the exchange rate effects in the Eastern European Markets and stock optimization measures in all sales divisions. The higher is the ratio, the shorter time the inventory is held. So in this year, the company has the least adequate money. Besides, it showed that the inventory management effective is high. But it started to decrease since 2008. In the last three years, because of the business expansion of all sales division, the inventory has a lot increased, so the trend of the inventory turnover ratio keeps decline since 2008. While in the last year 2011, it dropped to the lowest to 6.927, which is 0.743 less than the result in 2008.

## Payables turnover

If the ratio is high, it indicates that company is not making full use of available credit facilities. From the chart 4.2 and table 4.2 we can see that in 2008 the payable turnover ratio is the highest which is 3.876, while in 2007, it got the lowest. So in 2008, it did not take full advantage of the available facilities but used early payment discounts. In 2007, it indicates company has some trouble in making payments on time to suppliers. In 2009 to 2011, the ratios keep at average 3.68. It indicates it took 3.68 days for company to purchase to the suppliers.

## Days' sales in receivables (DSO)

Compared with receivables turnover ratio, the higher is the ratio, the lower the result of the DSO. In the table 4.2, we can see that it took at most 3.02 days to collect receivables in 2011 and at least 2.40 days to collect receivables in 2008. Because in 2008, it sold most in revenue and receivables are the least.

## Total assets turnover

Total assets turnover ratio shows the company's overall ability to generate revenue with a given level of assets. From the table 4.2 and chart 4.2 we can see that in 2008, the ratio is highest. It indicates that the company is generating the mist revenue of every one unit of average asset. While in 2007, it only got least revenue of the same unit of assets. The higher ratio indicates great efficient. Among five years, ratio is relatively stable, it means for the company Metro their assets utilization is quiet efficient.

### 4.1.2 Profitability ratios

Table 4.3 Data used in the profitability ratios

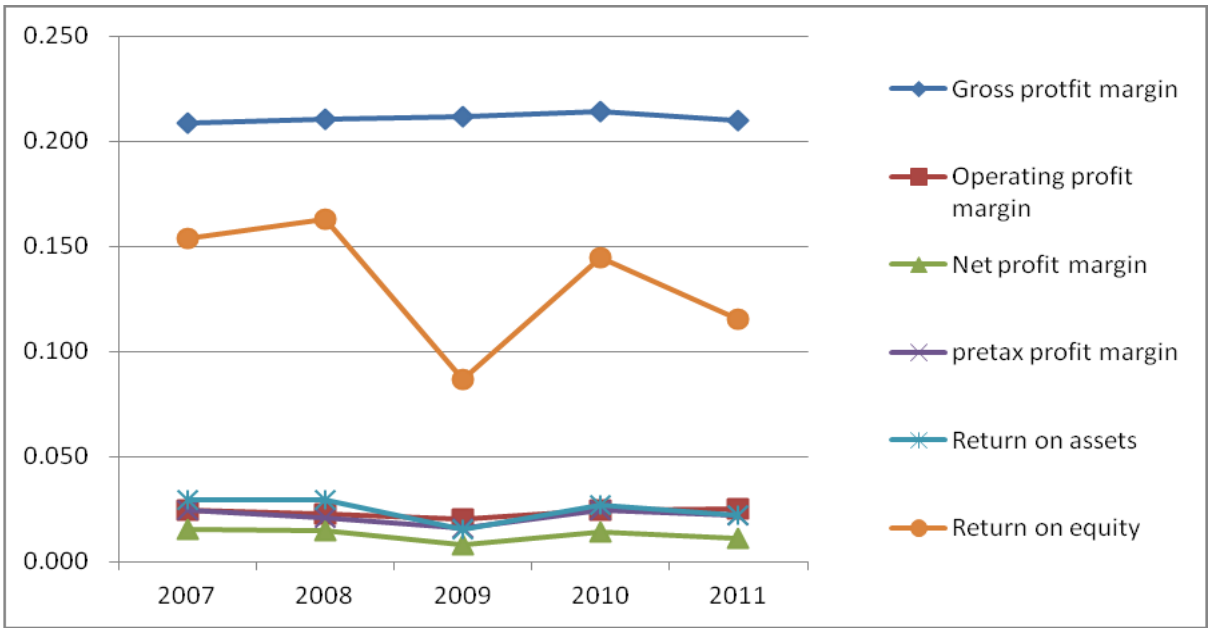
| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Gross profit | 13,400 | 14,320 | 13,865 | 14,393 | 14,002 |
| Operating income | 1,554 | 1,518 | 1,307 | 1,627 | 1,690 |
| Net income | 1001 | 989 | 519 | 936 | 741 |
| Total equity | 6,509 | 6,074 | 5,992 | 6,460 | 6,437 |
| Total assets | 33,872 | 33,825 | 33,282 | 35,067 | 33,987 |
| EBT | 1,561 | 1,415 | 1050 | 1,630 | 1,473 |
| Revenue | 64,210 | 67,956 | 65,529 | 67,258 | 66,702 |

Using data in table 4.3 and formulas in chapter 2, we can get the results of profitability ratios of table 4.4. Gross profit margin ratio is calculated through formula (2.10). Operating profit margin ratio is calculated by formula (2.11). Net profit margin ratio is counted by formula (2.12). Pretax profit margin ratio is calculated by formula (2.13). Return on assets is calculated by formula (2.14) and Return on equity is calculated by formula (2.16).

Table 4.4 Profitability ratios

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Gross profit margin | 0.209 | 0.211 | 0.212 | 0.214 | 0.210 |
| Operating profit margin | 0.024 | 0.022 | 0.020 | 0.024 | 0.025 |
| Net profit margin | 0.016 | 0.015 | 0.008 | 0.014 | 0.011 |
| pretax profit margin | 0.024 | 0.021 | 0.016 | 0.024 | 0.022 |
| Return on assets | 0.030 | 0.029 | 0.016 | 0.027 | 0.022 |
| Return on equity | 0.154 | 0.163 | 0.087 | 0.145 | 0.115 |

Chart4.3 Profitability analysis




## Pretax profit margin

From the table 4.4 and chart 4.3 we can see that four years keep the ratio above 2% except year 2009. The lower is the ratio; the less likely the company will be profitable. Among five years, EBT in 2009 is the least, so the ratio is relatively lower than other four years. However, the company adjusted the management arrangement so that the EBT in 2010 is climbed a lot

## Return on assets (ROA)

The ROA is decreasing from 2007 to 2009, and it is the bottom among five years. So in 2009, the company got the least earning from the capital investment. And in the 2007, the ROA got the highest, which shows the company assigned its assets best among five years. And compared with ROE, ROA is relatively too low and trend is more flat.

## Operating profit margin

According to the table 4.4 and chart 4.3, the trend of the ratio is reflected as shape "V"，that is , in 2009, it has the lowest ratio. Operating profit is lower than gross profit because operating profit is calculated including selling, administrative and other expenses along with the cost of goods. So the lowest ratio of 2009 because the highly increase of these costs, so the operating income is lower. From the annual report of Metro Group in 2009, it says *"The increase in personnel expenses resulted from the higher restructuring expenses from Shape*

*2012 compared to the previous years. As to operating income, the decrease in it is primarily attributable to lower income from rents, from the disposal of fixed assets and from construction services."*

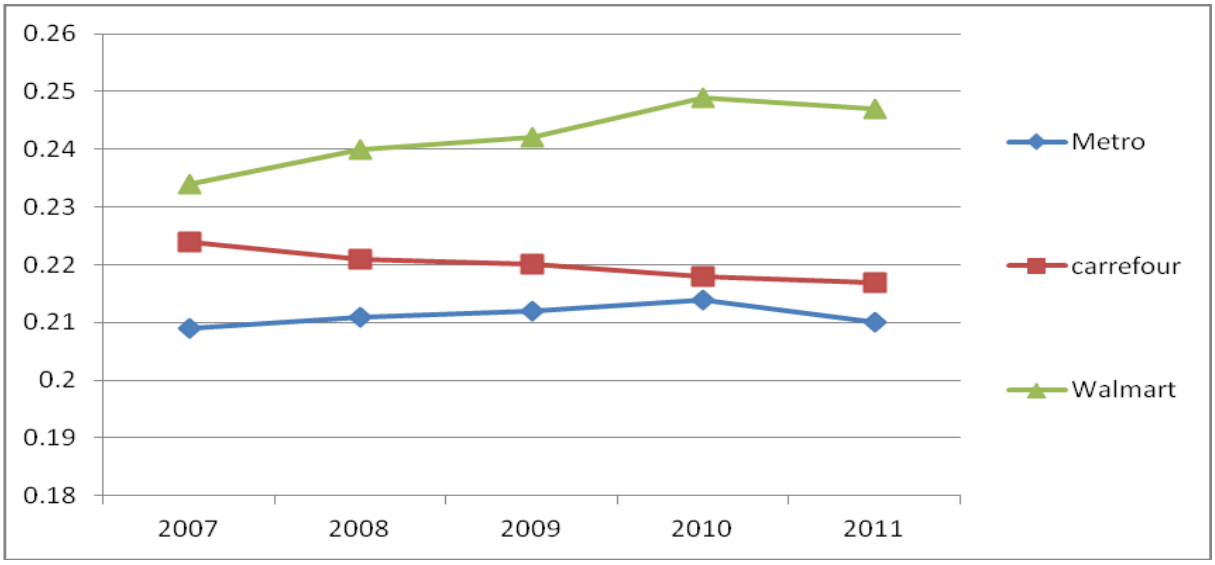
## Gross profit margin

Table 4.5 Gross profit margin and its main competitors'

| Gross profit margin | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Metro | 0.209 | 0.211 | 0.212 | 0.214 | 0.210 |
| Carrefour | 0.224 | 0.221 | 0.220 | 0.218 | 0.217 |
| Wal-Mart | 0.234 | 0.240 | 0.242 | 0.249 | 0.247 |

Resource: The data of Carrefour and Wal-mart are all from its companies' annual report from 2007 to 2011.

Chart 4.4 Gross profit margin and its main competitors'




From the chart 4.4 it shows that the ratio for Metro has not changed so much in five years. Of all the margins of Metro, 2010 has the highest gross profit margin. In the first four years, the trend of the ratio is increasing, while in the last year, it declined. The reason of that probably is in 2011, aside from currency developments, the disappointing Christmas business also dampened gross profit.

Compared with other three competitors, Wal-mart performed best among them. No matter in which year, it has the highest ratio than other two companies. And the trend of its ratio is exactly like the trend of Metro, which is also affected by the critical Christmas. For Carrefour, the performance of it is worse and worse from 2007 to 2011. In 2010, the distinction between

it and Metro is the least. The main reason caused that may be a series of problems exposed by foods safety even some political events, which directly influence the sales in China in Asia.

## Net profit margin

Table 4.6 Net profit margin and its main competitors'

| Net profit margin | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Metro | 0.016 | 0.015 | 0.008 | 0.014 | 0.011 |
| Carrefour | 0.028 | 0.014 | 0.003 | 0.005 | 0.005 |
| Wal-Mart | 0.0349 | 0.034 | 0.0327 | 0.0366 | 0.0389 |

Resource: The data of Carrefour and Wal-Mart are all from its companies' annual reports from 2007 to 2011.

Chart 4.5 Net profit margin and its main competitors'


For Metro, the net profit margin got the worst in 2009, mainly due to the terrible net income of this year. The net profit margin has the same pattern as the pretax margin, which both played worse in 2009 and 2011.

In the table we compare three companies; we can see that only in 2007, the Metro placed in the third place, while in the other years, its place beyond Carrefour to be the second one. In 2009, all companies here have declined. However, Carrefour decreased most and didn't have an obviously rebound in 2010. The reason can be that the management problems occurred in that period and exposed safety problems which left a negative impression to consumers. As to Wal-mart, as the top one retailer company in the world, the perfect management system and

high quality services give it a stable net income even suffering the financial crisis in 2009. Wal-mart has set a unique image and is exclusive for particular customer.

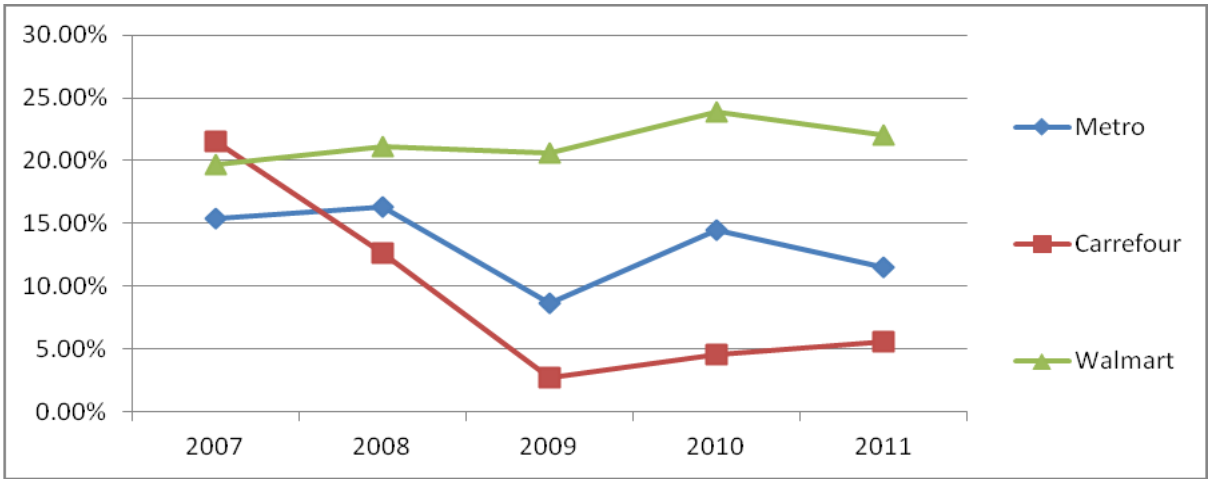
## Return on equity (ROE)

Table 4.7 Return on equity and its main competitors'

| ROE | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Metro | 15.38% | 16.28% | 8.66% | 14.49% | 11.51% |
| Carrefour | 21.56% | 12.66% | 2.74% | 4.52% | 5.59% |
| Wal-Mart | 19.67% | 21.08% | 20.63% | 23.91% | 22.01% |

Resource: The data of Carrefour and Wal-Mart are all from its companies' annual reports from 2007 to 2011.

Chart 4.6 Return on equity




For Metro, the fluctuation of the ratio is obviously. In 2009, it performed worst, while in 2008, it is the best. Maybe a reason of that is the financial crisis in 2008 caused that the profit of 2009 is low.

Among three supermarket companies, Wal-Mart has a stable performance on ROE, while Carrefour dropped sharply since 2007 to 2009, and has a slightly increase since then. For Carrefour, a big reason that caused the sharp decline from 2007 to 2009 may be that the net income of Carrefour declined caused by "Boycott Carrefour" demonstration activity in China in 2008. And some political conflicts between China and France, then Chinese reject to shopping in the Carrefour, which caused Carrefour shut down earlier. While from them, there

is some food problems in Carrefour followed, which totally shaped Carrefour a negative image.

Among all these ratios, besides gross net profit margin, it keeps at a relatively stable level; others are all having peaks and bottoms. And most of them the year 2009 performed worst. I think the financial crisis in 2008 has become a big part of reason which affects the sales of the company. While in 2007 and 2008, all the ratios indicate that it plays better than last two years.

### 4.1.3 Liquidity ratios

Table 4.8 Data used in the liquidity ratios

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Current assets | 14,990 | 15,017 | 14,818 | 16,155 | 15,165 |
| Current liabilities | 20,006 | 20,382 | 18,184 | 19,617 | 19,296 |
| Day's sales in inventory(DOH) | 52.64 | 47.64 | 50.23 | 51.49 | 52.69 |
| Days' sales in receivables(DSO) | 2.89 | 2.40 | 3.00 | 2.85 | 3.02 |
| Number of days of payable | 101.19 | 94.17 | 99.27 | 99.37 | 98.81 |

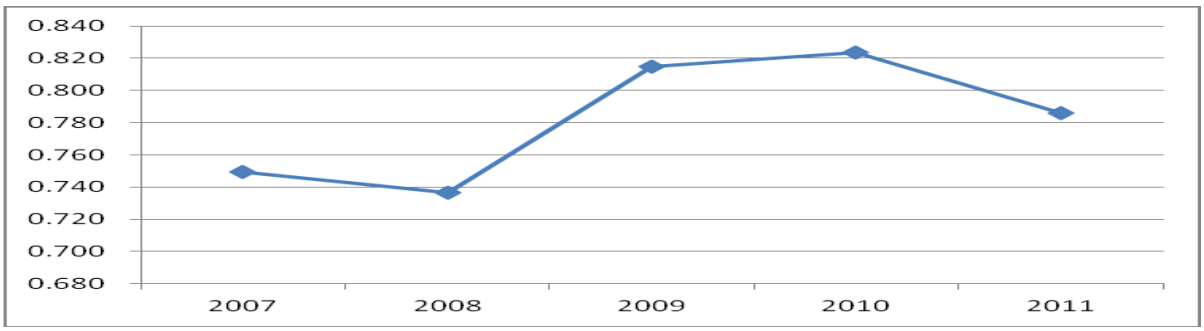
We use formula (2.17), (2.18) and data from table 4.8 then we can get the table 4.9 of liquidity ratios.

Table 4.9 liquidity ratios

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Current ratio | 0.749 | 0.737 | 0.815 | 0.824 | 0.786 |
| Cash conversion cycle | -45.66 | -44.13 | -46.04 | -45.03 | -43.10 |

### Current ratio

Chart 4.7 current ratio

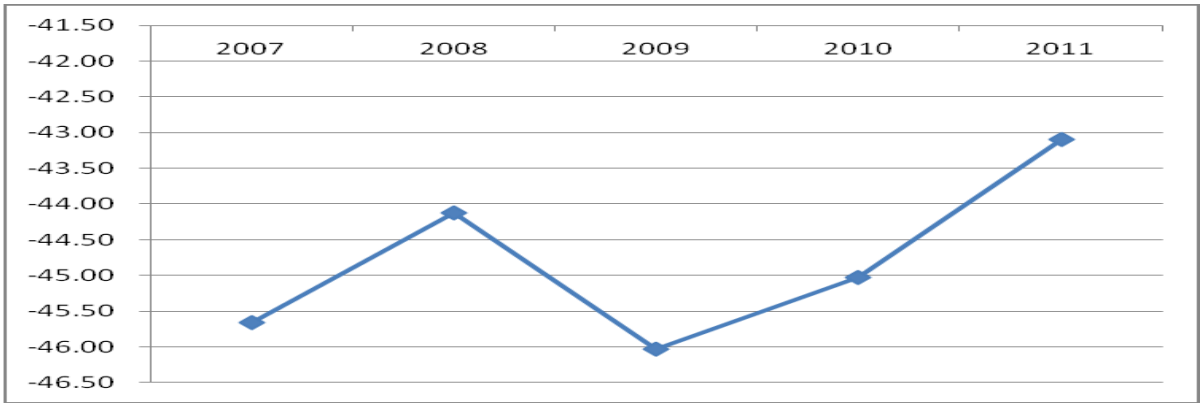



From the chart 4.7 we can see that the current ratio of the company is less than one. It is not a good sign if the current ratio is smaller than one because what current ratio show is the

relationship between current assets and current liabilities, which means the liquidity of the Metro Group is low and the situation of the net working capital is negative. In the middle three years, the ratio kept increasing. This is because in 2008, the company is financed by more by long-term liabilities instead of short-term, the program named *"Debt issuance program"*.

### Cash conversion cycle (net operating cycle)

Chart 4.8 cash conversion cycle




The unusual negative results show that the liquidity of the company is quiet high. As a major supermarket in the world, the company gets the inventory on credit, then there are some accounts payable and when company sells them, it increases accounting receivables. Finally, the company use cash to settle the accounts payable and collects cash to settle the accounts receivables. The time between the flows of cash is cash conversion cycle. So the Metro Group has excess cash to invest for about 45 days on which it is earning, rather than paying, interest.

## 4.1.4 Leverage ratios

Table 4.10 Data used in leverage ratios

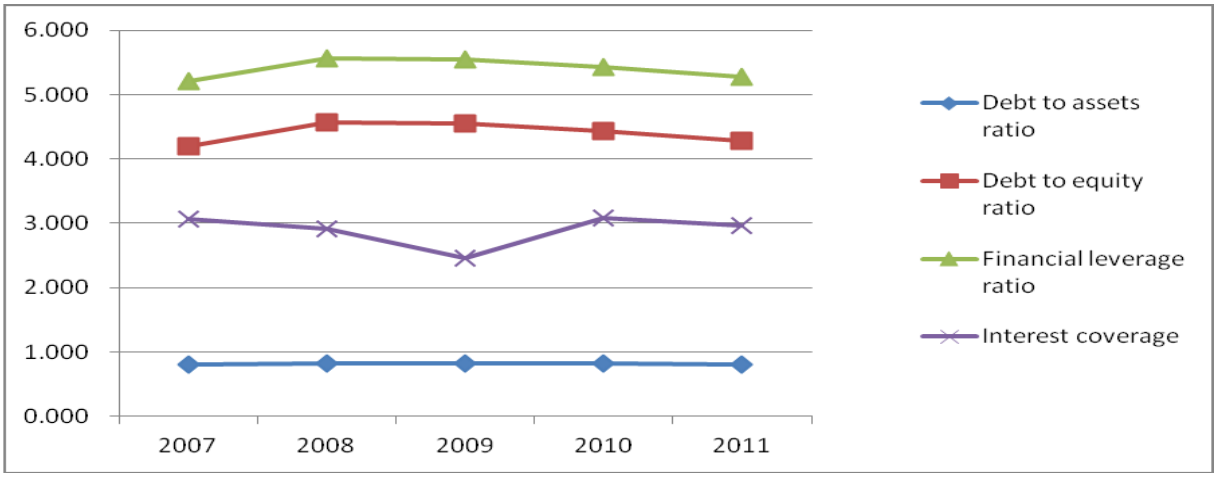
| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Assets | 33, 872 | 33, 825 | 33, 282 | 35, 067 | 33, 987 |
| Debt | 27, 363 | 27, 751 | 27, 290 | 28, 607 | 27, 550 |
| Equity | 6, 509 | 6, 074 | 5, 992 | 6, 460 | 6, 437 |
| EBIT | 2, 078 | 1, 988 | 1, 681 | 2, 211 | 2, 113 |
| Interest payment | 676 | 682 | 682 | 718 | 713 |

According to the data from table 4.10 and formulas in chapter 2, we get the result of leverage ratios in table 4.11. Debt to assets ratio is calculated by the formula (2.19) and Debt to equity ratio is calculated by formula (2.20). The Financial leverage ratio is calculated by formula (2.21) and Interest coverage is calculated by the formula (2.22).

Table 4.11 Leverage ratios

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Debt to assets ratio | 0.808 | 0.820 | 0.820 | 0.816 | 0.811 |
| Debt to equity ratio | 4.204 | 4.569 | 4.554 | 4.428 | 4.280 |
| Financial leverage ratio | 5.204 | 5.569 | 5.554 | 5.428 | 5.280 |
| Interest coverage | 3.074 | 2.915 | 2.465 | 3.079 | 2.964 |

Chart 4.9 leverage ratios




## Debt to assets ratio

From the table 4.11 and chart 4.9 we can see that in these five years, the ratio keeps at a relatively stable level. They all fluctuate around 0.810. Among five years, 2007 got the lowest ratio, so it got the lowest financial risk. In next two years, it increased to the highest and kept it for two years, so in those two years, the company faced the biggest solvency risk. From the annual report in 2008, it says "*A 'Debt Issuance Programme' provides long-term financing. In addition, a 4-year promissory note loan in the amount of €500 million was issued during the reporting period, including a €387 million variable interest tranche (3-month EURIBOR plus 0.8 percent p.a.) and a €113 million fixed-interest tranche with a coupon of 4.74 percent p.a. For short- and medium-term financing, METRO Group uses ongoing capital market issuance programs such as a "Euro Commercial Paper Program" with an authorized volume of up to*

*€2.0 billion. Another Commercial Paper Program with a volume of €3.0 billion is aimed, the average amount utilized by the two programs was €2.5 billion in 2008 (previous year: €1.7 billion). S*o we can see that debt in 2008 increased a lot , as to the assets has no obviously change, then it caused that the ratio get higher in 2008. However, in 2009 although debt has declined, total assets have also changed correspondently. So in this year the ratio keeps at the same level.

## Financial leverage ratio

The higher financial leverage ratio, the higher risks the company has to face. Among five years, 2008 got the highest ratio result; secondly it is in year 2009. Although 2010 got the highest of assets, but the equity in 2008 is less than equity in 2010 for 6%.

## Interest coverage

From the table 4.11 we can see that in 2007 and 2010, the company got relatively higher interest coverage in five years. So it indicates that in these two years, company has a stronger ability and assurance to service the debt from operating earnings. The interest payment is lowest in 2007, it is only 676, because of less interest burden, and no wonder the interest coverage is higher. Although the interest payment is the highest in 2010 to 718, the EBIT is also highest to 2211. In general, the company has a strong ability to face its debt and make it still profitable.

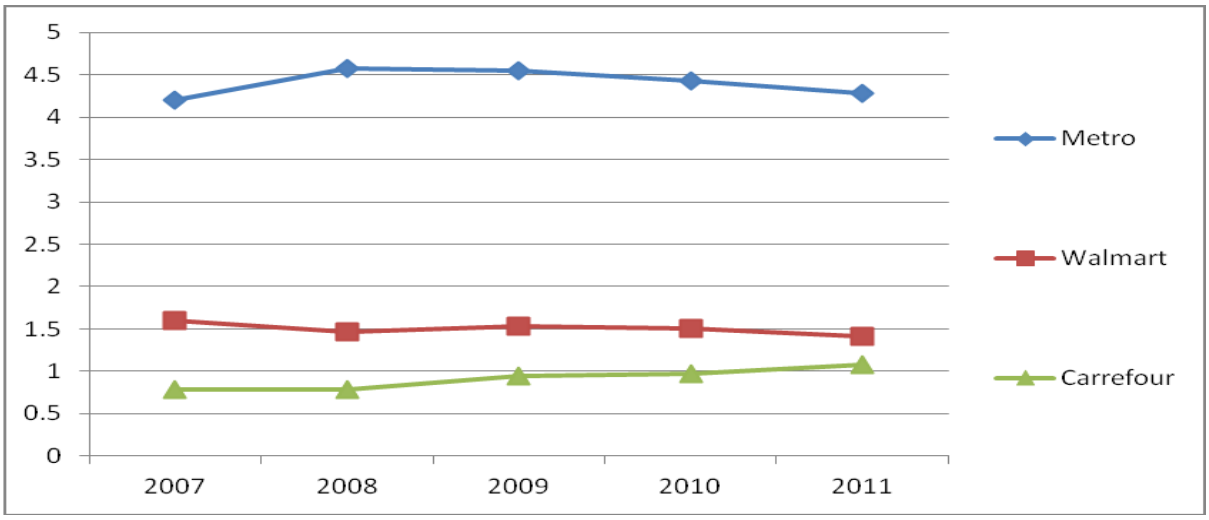
## Debt to equity ratio

Table 4.12 Debt to equity ratio

| Debt to equity ratio | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| Metro | 4.204 | 4.569 | 4.554 | 4.428 | 4.280 |
| Wal-Mart | 1.6 | 1.46 | 1.53 | 1.5 | 1.41 |
| Carrefour | 0.79 | 0.78 | 0.95 | 0.97 | 1.08 |

Resource: The data of Carrefour and Wal-Mart are all from its companies' annual reports from 2007 to 2011.

Chart 4.10 Debt to equity ratio of Metro and its main competitors'




From the table 4.12 and Chart 4.10, we can see that in 2008, the ratio started to increase and kept at a relatively the stable and higher level. While in 2011, it dropped again and to 4.280.

Through comparing the debt to equity ratio of Metro with another two great supermarkets which positions before Metro in the world, we can see that among three companies, Metro Group gets the highest ratio level. For another two companies, Wal-Mart kept decreasing in five years and Carrefour got the opposite movements.

For financial leverage ratio, it increased in 2008 and declined since 2010. And debt to equity has the same tendency of financial leverage ratio. For interest coverage ratio, it declined sharply in 2009, but climbed to the same level immediately in 2010. As to debt to assets ratio and cash flow to debt ratio, both keeps at a stable level that have rarely obviously changed.

## 4.2 DuPont analysis

After calculating all the financial ratios, we use DuPont analysis to find the relationship between the various categories of ratios we have calculated above and how they influence the return to the investment of the owners.

From the figure 2.3, we can get following details of DuPont Model.

Table 4.13 DuPont analysis

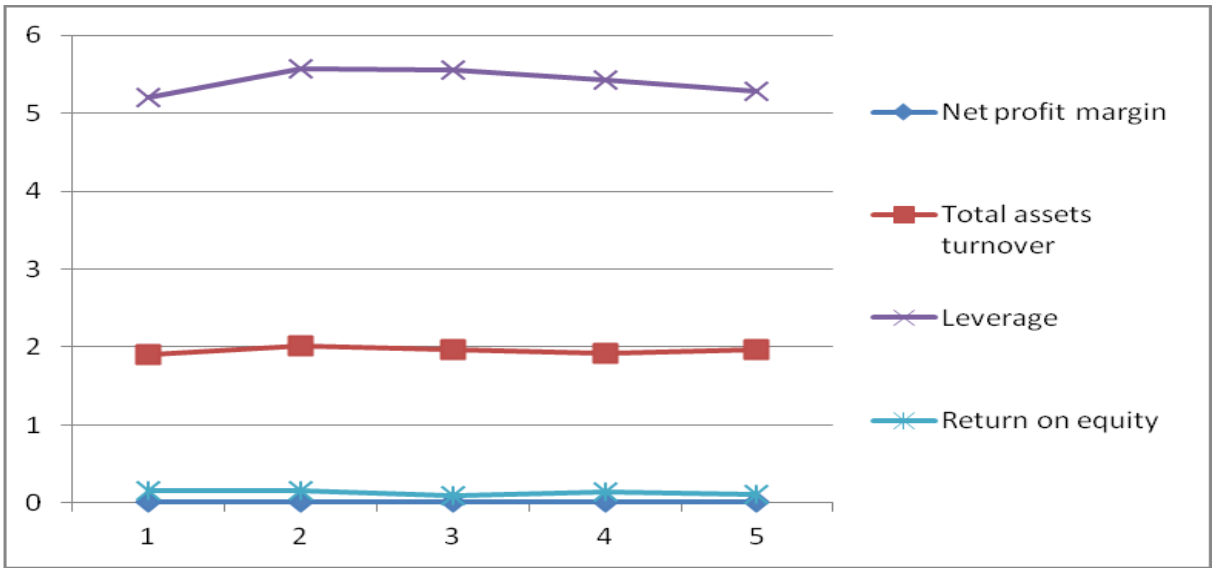
| year | formula | | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|---|---|
| Net profit margin | $\frac{\text{Net income}}{\text{Revenue}}$ | ① | 0.016 | 0.015 | 0.008 | 0.014 | 0.011 |
| Total assets turnover | $\frac{\text{Revenue}}{\text{Total assets}}$ | ② | 1.896 | 2.009 | 1.969 | 1.918 | 1.963 |
| Return on assets | $\frac{\text{Net income}}{\text{Total assets}}$ | ③=①•② | 0.030 | 0.029 | 0.016 | 0.027 | 0.022 |
| Leverage | $\frac{\text{Total assets}}{\text{Total equity}}$ | ④ | 5.204 | 5.569 | 5.554 | 5.428 | 5.280 |
| Return on equity | $\frac{\text{Net income}}{\text{Total equity}}$ | ⑤=③•④ | 0.154 | 0.163 | 0.087 | 0.145 | 0.115 |

First we analysis the return on assets, from 2007 to 2009, it is decreasing from 3% to 1.6%, and in 2009, it got the lowest ratio among the five years. As we know return on assets is affected by total assets turnover and net profit margin, so after we compare the data in them, we can find that the changes of ROA of these three years are mainly because of net profit margin, which is also decreasing from 2007 to 2009. It means the effective of company to convert the revenue into real profit is decreasing. However , in 2010, it has a temporary growth in ROA, we can find that in 2010 the total assets turnover has a relatively huge decline that is about 4%, which means the effect of increasing of net profit has more than the effect of decreasing of total turnover assets. In the last year, ROA dropped from 2.7% to 2.2%, and it is still affected more by net profit margin.

In all, we can get a conclusion of the return on assets: the company gets less and less profit from assets is mainly droved by the net profit margin.

After we analyzed ROA, along with the leverage, we can have a deep understanding of ROE, here is the tendency of ROE and its components.

Chart 4.11 ROE and its components




From the table 4.13 and chart 4.11 we can see that the return on equity is relative stable, and so are its components. In the first two years ROE has a slightly improvement. These can be seen also seen on leverage and total assets turnover. But after 2008 to 2009, the total assets turnover and leverage and net profit margin have all declined which led the ROE decreased definitely. Although the leverage declined, which means the company has reduced its debt as a proportion of total assets and the risk of company is reduced, but the decreasing of net profit margin shows it is hard to make profit from revenue which led it is harder and harder to make revenue from assets. From 2009 to 2011, the ROA is the main factors that drive the ROE.

Now we know the tendency change of ROE is mainly due to the change of return of assets, which is also net profit margin. Leverage has given some negative influence on the growth of return on equity. So from these sign we can be told that the Metro Group should take more advantage of debt and improve the ability to generate profit from the revenue.

## 4.3 Influence quantification

If we want to have a deeper analysis on how the net profit margin and total assets turnover and financial leverage affects the ROE, we have to calculate the influence quantification of these three items.

Above all, we use the data we have calculated in the table 4.13 to get the absolute change and index of change of ROE.

Table 4.14 absolute change and index of change of ROE

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| ROE | 0.154 | 0.163 | 0.087 | 0.145 | 0.115 |
| absolute change | - | 0.90% | -7.62% | 5.83% | -2.98% |
| index of change | - | 105.9% | 53.2% | 167.3% | 79.4% |

In the table 4.14 we can see that in 2009 and 2011, the absolute change of ROE is negative, and the index of change of ROE decreased from 2008 to 2009, after a little improving in2010, it dropped again.

First we calculate through gradual changes method.

## 4.3.1 Chain (Gradual changes) method analysis

In this calculation part, we use the formula (2.24) and data from table 4.13 and table 4.14.

Table 4.15 influence of the sub-indicators on the absolute change of the ROE from 2007-2008

| | $a_{2007}$ | $a_{2008}$ | $\Delta a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.016 | 0.015 | -0.001 | -1.02% | 2(-) |
| $a_2$ =Total assets turnover | 1.896 | 2.009 | 0.113 | 0.86% | 3(+) |
| $a_3$ =Financial leverage | 5.204 | 5.569 | 0.365 | 1.07% | 1(+) |
| sum | - | - | - | 0.90% | - |

From the table 4.15, the net profit margin decreased 0.1 percent from 2007 to 2008, and total assets turnover and financial leverage each has increased 11.3% and 36.5%. After using the gradual changes method we can see it financial leverage has contributed most in the ROE changes, which is 1.07% of 0.90% in total. And total assets turnover made the secondly biggest positive contribution on ROE. And net profit margin has a negative influence on the ROE.

Table 4.16 influence of the sub-indicators on the absolute change of the ROE from 2008-2009

| | $a_{2008}$ | $a_{2009}$ | $\Delta a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.015 | 0.008 | -0.007 | -7.42% | 1(-) |
| $a_2$ =Total assets turnover | 2.009 | 1.969 | -0.040 | -0.18% | 2(-) |
| $a_3$ =Financial leverage | 5.569 | 5.554 | -0.014 | -0.02% | 3(-) |
| sum | - | - | - | -7.62% | - |

In this period, all the components have the negative increase, and total assets turnover has the highest one, which decreased 4 percent points. These three components ratio all have negative effects on ROE. However, net profit margin is the most influential factor and financial leverage is the least one.

Table 4.17 influence of the sub-indicators on the absolute change of the ROE from 2009-2010

| | $a_{2009}$ | $a_{2010}$ | $\Delta a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.008 | 0.014 | 0.006 | 6.56% | 1(+) |
| $a_2$ =Total assets turnover | 1.969 | 1.918 | -0.051 | -0.39% | 2(-) |
| $a_3$ =Financial leverage | 5.554 | 5.428 | -0.126 | -0.34% | 3(-) |
| sum | - | - | - | 5.80% | - |

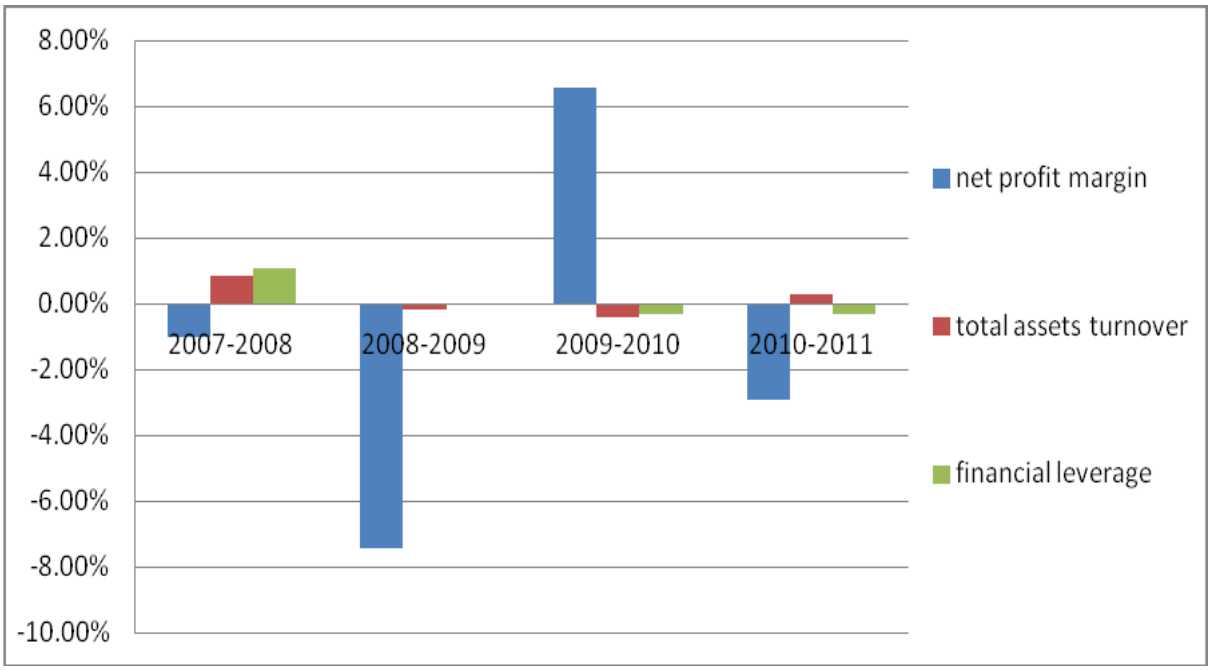
In table 4.17, except net profit margin has a positive increase by 0.6 percent points. Other two component ratio all have decreased. Although total assets turnover and financial leverage has negative on ROE, the net profit margin made most contribution to the ROE which is 6.56% of 5.8%. So, net profit margin is the most influential factor of ROE in this year.

Table 4.18 influence of the sub-indicators on the absolute change of the ROE from 2010-2011

| | $a_{2010}$ | $a_{2011}$ | $\Delta a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.014 | 0.011 | -0.003 | -2.92% | 1(-) |
| $a_2$ =Total assets turnover | 1.918 | 1.963 | 0.045 | 0.27% | 3(+) |
| $a_3$ =Financial leverage | 5.428 | 5.280 | -0.148 | -0.32% | 2(-) |
| sum | - | - | - | -2.98% | - |

In this table 4.18 in this period, only total assets turnover had positive effects on the ROE, while other two had negative effects. Among all the ratios, the net profit margin influenced ROE most and the effect is negative. Although total assets turnover has the positive effect, it is the least influential factor.

Chart 4.12 influences of the sub-indicators on the absolute change of the ROE




According to the chart 4.12, we can get a general conclusion about the influence quantification of four periods. It is obviously to see that only from 2007 to 2008, the effect of financial leverage is more than other two components. For the rest three periods, net profit margin is the most influential ratio of the ROE. As to net profit margin factor in four periods, only in 2009 to 2010, the effect of it is positive. So in this period, the high growth rate made a great contribution to the growth to ROE change.

## 4.3.2 Logarithmic decomposition analysis

In this part, we use formula (2.25) and data from table 4.13 and table 4.14.

Table 4.19 influence of the sub-indicators on the index of change of the ROE from 2007-2008

| | $a_{2007}$ | $a_{2008}$ | $I_a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.016 | 0.015 | 0.934 | -1.09% | 1(-) |
| $a_2$ =Total assets turnover | 1.896 | 2.009 | 1.060 | 0.92% | 3(-) |
| $a_3$ =Financial leverage | 5.204 | 5.569 | 1.070 | 1.07% | 2(+) |
| sum | – | – | – | 0.90% | - |

In the table 4.19, the net profit margin has the most negative contribution to the ROE, while although other two components had the positive effects, they are less influential factors than net profit margin.

Table 4.20 influence of the sub-indicators on the index of change of the ROE from 2008-2009

| | $a_{2008}$ | $a_{2009}$ | $I_a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.015 | 0.008 | 0.544 | -7.34% | 1(-) |
| $a_2$ =Total assets turnover | 2.009 | 1.969 | 0.980 | -0.24% | 2(-) |
| $a_3$ =Financial leverage | 5.569 | 5.554 | 0.997 | -0.03% | 3(-) |
| sum | – | – | – | -7.62% | - |

In this table we can see that all of the components ratios had the negative effects on the ROE, and net profit margin affects most, which is 7.35% of total 7.6%. And financial leverage had little influence on ROE, which is only 0.03% of total.

Table 4.21 influence of the sub-indicators on the index of change of the ROE from 2009-2010

| | $a_{2009}$ | $a_{2010}$ | $I_a$ | $\Delta X_{ai}$ | order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.008 | 0.014 | 1.757 | 6.38% | 1(+) |
| $a_2$ =Total assets turnover | 1.969 | 1.918 | 0.974 | -0.30% | 2(-) |
| $a_3$ =Financial leverage | 5.554 | 5.428 | 0.977 | -0.26% | 3(-) |
| sum | - | - | - | 5.83% | - |

From the table 4.21, the net profit margin had a positive effect on ROE, while total assets turnover and financial leverage had negative effects on ROE. In this period, we can find that

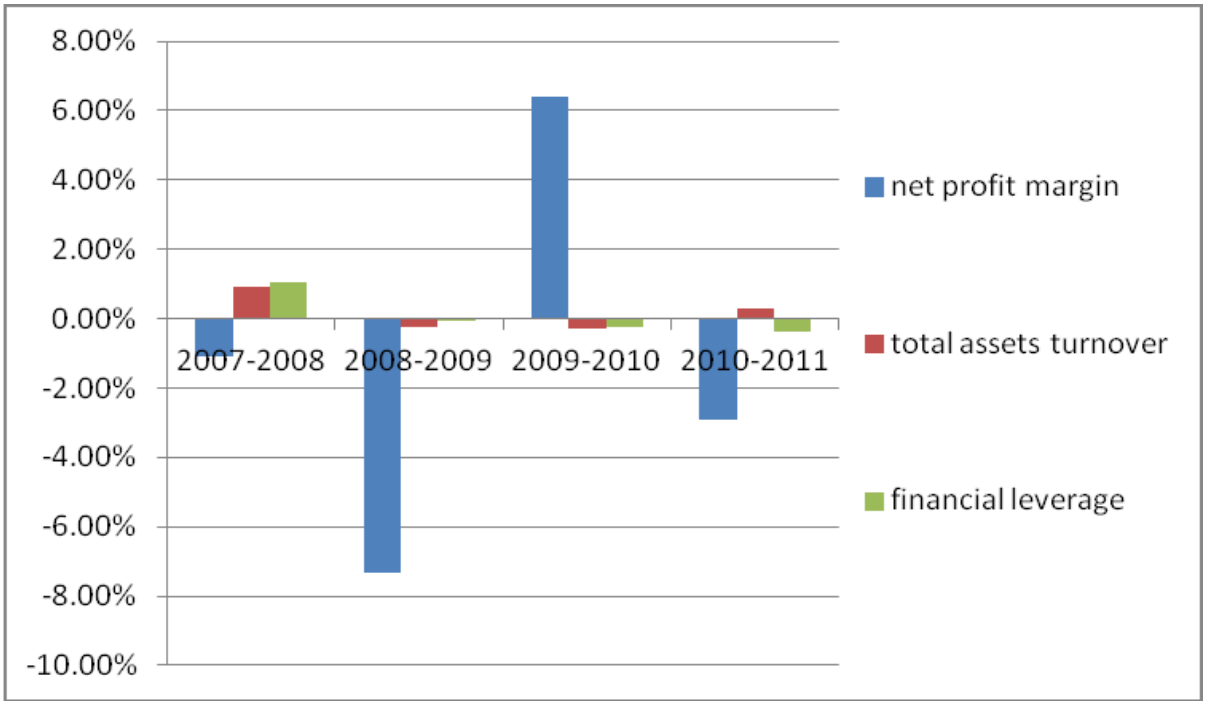
net profit margin is still the most influential factor on ROE, and financial leverage is the least influential factor on ROE.

Table 4.22 influence of the sub-indicators on the index of change of the ROE from 2010-2011

| | $a_{2010}$ | $a_{2011}$ | $I_a$ | $\Delta X_{ai}$ | Order |
|---|---|---|---|---|---|
| $a_1$ =Net profit margin | 0.014 | 0.011 | 0.798 | -2.92% | 1(-) |
| $a_2$ =Total assets turnover | 1.918 | 1.963 | 1.023 | 0.30% | 3(+) |
| $a_3$ =Financial leverage | 5.428 | 5.280 | 0.973 | -0.36% | 2(-) |
| sum | - | - | - | -2.98% | - |

In the table 4.22, only total assets turnover had the positive influence on the ROE, but it is the least influential factor. As other two, net profit margin had the most negative effects on the ROE, which is 2.92% of total 3%.

Chart 4.13 influences of the sub-indicators on the index of change of the ROE




In this chart, there is a little bit difference to the chart 4.12, in the logarithmic decomposition analysis method, in all four periods, net profit margin ratio is the most influential factor of the ROE change, secondly is total assets turnover component. And only in 2009 to 2010, the net profit margin has the positive effect on ROE change, in the rest four

periods; it is negative to the return on equity. As to financial leverage, it only made positive contribution to the ROE change in the first period.

To make a summary, both analysis methods shows that the net profit margin is the biggest influential factor among four periods, and only in 2009 to 2010, the net profit margin has made the negative contribution to the change of ROE.

# 5 Conclusion

Through previous four parts, which are introduction, overview of financial analysis methodology, characteristics of company Metro AG and financial analysis of Metro AG Company, we get a clearly look about the financial performance situation of the Metro AG Company.

In the second chapter, it is the introduction of some financial statements and methods to calculate the financial data of company. And the third chapter, we mainly talk about the history, structure and main competitors of the company Metro AG and common size the financial statements of the company. It has a general look that the company played quiet good in 2008 due to the revenue is high, and net income is quiet good only a little bit less than 2007. However, in 2009 the company performed terrible, because the net income is only about half of the 2007. As to assets, it hasn't changed much in these five years, neither has the structure of the capital.

In the fourth part, some financial ratios results about the financial situations of the company Metro AG is made. In general, the performance of the company is not that good. All the ratios are relatively lower than the competitor companies like Carrefour and Wal-Mart. And among five years, the company performed worst in 2009. The main reason of that probably is the effect of the financial crisis of the world in 2008. Luckily, most ratios have rebound since 2010. As to the return on assets and return on equity, the main reason that affect them are the net profit margin of the company. And the low profit margin ratio shows the low profit the company has made. Of course part of reason of it is the enlargement program, but if the company wants to keep at the top three retail supermarket in the world, the company should keep an eye on the financial performance about return. As to debt, the debt proportion is relatively higher. Although it can decrease the cost of the capital, it brings high risk to the company. So company should strengthen the management of capital structure and control the liquidity of the assets.

From the analysis we can see that Metro always cannot exceed the performance of Wal-mart in all aspects, but it has a relatively closer gap to Carrefour. So if the company wants to have a higher position in the world, it has to learn the outstanding features of two

companies and have a good combination them. First, the Metro can learn to become a storage supermarket which contributes to decrease the costs of products. Due to from the annual report, the costs of sales takes a big proportion of the net sales. For Carrefour, it is famous for its flexible location choice, usually it has a two floors and it can be everywhere even underground. Metro should to learn to choose the right place which is convenient and adjust the location flexibly. Last but not least, the advertisement of Metro AG should be more widespread. Not only the good quality of the products and service is important, but also the popularity and excellent reputation.

In 2012, the situation of the company will be better. First of all, against the backdrop of a persistently difficult macroeconomic environment, the company thus improved sales by 2.0% to € 31.5 billion in the period from January to June 2012.[7] Secondly, the program "shape 2012" has a remarkable achievements on the company. And with more and more stores open in the different countries in the following years, the Metro AG will be more outstanding in the retail market shares and have greater competitiveness in the market.

[7] The data is from the Annual Report 2012.

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# List of Abbreviations

EBIT - earnings before interest and taxes

EBT - earnings before taxes

EAT - earnings after taxes

EPS - earning per share

DOH - days' sales in inventory

DSO - days' sales in receivables

ROA - return on assets

ROE - return on equity

P&L-Profit and Loss statement

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Ostrava dated 09.05.2013

Jin Zeng 曾健

Student's name and surname

# List of Annexes

Annexes

Annex 1 (€ million)

| Metro AG Income Statement | | | | | |
|---|---|---|---|---|---|
| items(€ million) | 2007 | 2008 | 2009 | 2010 | 2011 |
| **Net sales** | 64,210 | 67,956 | 65,529 | 67,258 | 66,702 |
| **Cost of sales** | 50,810 | 53,636 | 51,664 | 52,865 | 52,700 |
| **Gross profit on sales** | 13,400 | 14,320 | 13,865 | 14,393 | 14,002 |
| Other operating income | 1,554 | 1,518 | 1,307 | 1,627 | 1,690 |
| Selling expenses | 11,443 | 12,332 | 11,854 | 12,173 | 11,928 |
| General administrative expenses | 1,352 | 1,426 | 1,589 | 1,585 | 1,587 |
| Cost of material | 50,726 | 53,619 | 51,507 | 52,587 | 52,228 |
| Personal expenses | 6,779 | 7,005 | 7,185 | 7,367 | 7,286 |
| Depreciation | 1,283 | 1,352 | 1,397 | 1,427 | 1,351 |
| Other operating expenses | 81 | 92 | 48 | 51 | 64 |
| **Earnings before interest and taxes (EBIT)** | 2,078 | 1,988 | 1,681 | 2,211 | 2,113 |
| Result from associated companies | 0 | 0 | 0 | 0 | 1 |
| Other investment result | 11 | 14 | 15 | 15 | 41 |
| Interest income | 185 | 196 | 129 | 112 | 133 |
| Interest expenses | 676 | 682 | 682 | 718 | 713 |
| other financial result | 37 | 101 | 93 | 10 | 102 |
| Net financial result | 517 | 573 | 631 | 581 | 640 |
| **Earnings before taxes** | 1,561 | 1,415 | 1050 | 1,630 | 1,473 |
| Income taxes | 560 | 426 | 531 | 694 | 732 |
| **Net profit for the period** | 1001 | 989 | 519 | 936 | 741 |
| Profit attributable to minority interests | 158 | 157 | | | |
| from continuing operations | 158 | 157 | 519 | 936 | 741 |
| from discontinued operations | 0 | 0 | 0 | 0 | 0 |
| Profit attributable to shareholders of METRO AG | 825 | 403 | 383 | 850 | 631 |
| Earnings per share in € | 2.52 | 1.23 | 1.17 | 2.6 | 1.93 |
| from continuing operations | 2.58 | 2.54 | 2.1 | 3.12 | |
| from discontinued operations | 0.06 | 1.31 | | | |

Annex 2 (€ million)

| Metro AG Balance Sheet | | | | | |
|---|---|---|---|---|---|
| **ASSETS** | 2007 | 2008 | 2009 | 2010 | 2011 |
| **Non-current assets** | 18,882 | 18,808 | 18,466 | 18,912 | 18,822 |
| Goodwill | 4,382 | 3,960 | 3,992 | 4,046 | 4,045 |
| Other intangible assets | 515 | 552 | 497 | 436 | 454 |
| Tangible assets | 12,332 | 12,524 | 12,244 | 12,482 | 12,661 |
| Investment properties | 116 | 133 | 129 | 238 | 209 |
| Financial assets | 152 | 144 | 113 | 248 | 79 |
| Other receivables and assets | 490 | 450 | 463 | 444 | 470 |
| Deferred tax assets | 949 | 1,045 | 1026 | 1000 | 904 |
| **Current assets** | 14,990 | 15,017 | 14,818 | 16,155 | 15,165 |
| Inventories | 7,328 | 7,001 | 7,110 | 7,458 | 7,608 |
| Trade receivables | 508 | 446 | 539 | 526 | 551 |
| Financial assets | 28 | 8 | 38 | 3 | 119 |
| Other receivables and assets | 3,076 | 3,132 | 2,613 | 2,724 | 2,882 |
| Entitlements to income tax refunds | 275 | 326 | 405 | 412 | 431 |
| Cash and cash equivalents | 3,433 | 3,874 | 3,996 | 4,799 | 3,355 |
| Assets held for sale | 342 | 230 | 117 | 233 | 219 |
| **Total assets** | 33,872 | 33,825 | 33,282 | 35,067 | 33,987 |
| **LIABILITIES and EQUITY** | 33,872 | 33,825 | 33,282 | 35,067 | 33,987 |
| **Equity** | 6,509 | 6,074 | 5,992 | 6,460 | 6,437 |
| Share capital | 835 | 835 | 835 | 835 | 835 |
| Capital reserve | 2,544 | 2,544 | 2,544 | 2,544 | 2,544 |
| Reserves retained from earnings | 2,876 | 2,441 | 2,375 | 2,929 | 2,985 |
| Minority interests | 254 | 254 | 238 | 152 | 73 |
| **Non-current liabilities** | 7,357 | 7,369 | 9,106 | 8,990 | 8,254 |
| Provisions for pensions and similar commitments | 973 | 964 | 978 | 1,016 | 1,028 |
| Other provisions | 524 | 533 | 502 | 472 | 478 |
| Financial liabilities | 5,030 | 5,031 | 6,743 | 6,533 | 5,835 |
| Other liabilities | 647 | 620 | 667 | 757 | 756 |
| Deferred tax liabilities | 183 | 221 | 216 | 212 | 157 |
| **Current liabilities** | 20,006 | 20,382 | 18,184 | 19,617 | 19,296 |
| Trade liabilities | 14,088 | 13,839 | 14,174 | 14,393 | 14,267 |
| Provisions | 576 | 522 | 561 | 532 | 531 |
| Financial liabilities | 2,708 | 3,448 | 984 | 1,750 | 1,606 |

Annex 3 (€ million)

| Metro AG Cash Flow Statement | | | | | |
|---|---|---|---|---|---|
| items | 2007 | 2008 | 2009 | 2010 | 2011 |
| **EBIT** | 2,087 | 1,985 | 1,681 | 2,211 | 2,113 |
| Depreciation of tangible and other intangible assets | 1,265 | 1,352 | 1,396 | 1,380 | 1,316 |
| Change in provisions for pensions and other provisions | 157 | 87 | 9 | 18 | 16 |
| Change in net working capital | 854 | 294 | 130 | 288 | 180 |
| Income taxes paid | 523 | 640 | 560 | 597 | 632 |
| Other | 359 | 444 | 67 | 174 | 290 |
| Cash flow from operating activities of continuing operations | 3,158 | 2,637 | 2,571 | 2,514 | |
| Cash flow from operating activities of discontinued operations | 30 | 14 | 18 | 0 | |
| **Total cash flow from operating activities** | 3,188 | 2,651 | 2,553 | 2,514 | 2,146 |
| Company acquisitions | 0 | 7 | 8 | 0 | 113 |
| Investments in tangible assets (excl. finance leases) | 1,821 | 2,281 | 1,189 | 1,412 | 1,414 |
| Other investments | 288 | 246 | 191 | 333 | 172 |
| Divestment of Extra | 17 | 467 | 34 | 121 | 2 |
| Disposal of fixed assets | 687 | 339 | 260 | 663 | 367 |
| Cash flow from investing activities of continuing operations | 1,219 | 1,728 | 1,162 | 961 | |
| Cash flow from investing activities of discontinued operations | 48 | 12 | 0 | 0 | |
| **Total cash flow from investing activities** | 1,267 | 1,740 | 1,162 | 961 | 1133 |
| Profit distribution | | | | | |
| to METRO AG shareholders | 366 | 386 | 386 | 386 | 442 |
| to other shareholders | 128 | 144 | 124 | 143 | 158 |
| Raising of financial liabilities | 1,482 | 2,891 | 3,169 | 1,302 | 386 |
| Redemption/repayment of financial liabilities | 1,727 | 2,128 | 3,371 | 898 | 1,634 |
| Interest paid | 651 | 655 | 676 | 695 | 683 |
| Interest received | 175 | 207 | 123 | 111 | 120 |
| Profit and loss transfers and other financing activities | 18 | 140 | 1 | 25 | 30 |
| Cash outflow from financing of discontinued operations | 0 | 40 | 38 | 0 | |

## Annex 3 continued

| | | | | | |
|---|---|---|---|---|---|
| Cash flow from financing activities of continuing operations | 1233 | 395 | 1,302 | 734 | |
| Cash flow from financing activities of discontinued operations | 22 | 9 | 36 | 0 | |
| **Total cash flow from financing activities** | 1211 | 404 | 1,266 | 734 | 2,441 |
| **Total cash flows** | 710 | 507 | 125 | 819 | 1,428 |
| Exchange rate effects on cash and cash equivalents | 1 | 51 | 4 | 13 | 23 |
| Total change in cash and cash equivalents | 711 | 456 | 122 | 832 | 1,444 |
| Total cash and cash equivalents on 1 January | 2,732 | 3,443 | 3,874 | 3,996 | 4,799 |
| Total cash and cash equivalents on 31 December | 3,443 | 3,899 | 3,996 | 4,828 | 3,355 |
| Less cash and cash equivalents from discontinued operations as at 31 December | 35 | 25 | 0 | 29 | 0 |
| Cash and cash equivalents from continuing operations as at 31 December | 3,408 | 3,874 | 3,996 | 4,799 | 3,355 |
| Change in cash and cash equivalents due to first-time consolidation of companies | 186 | 0 | 1 | 0 | 7 |

# Annex 4

| items | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| **Net sales** | 100.00% | 105.83% | 102.05% | 104.75% | 103.88% |
| **Cost of sales** | 100.00% | 105.56% | 101.68% | 104.04% | 103.72% |
| **Gross profit on sales** | 100.00% | 106.87% | 103.47% | 107.41% | 104.49% |
| Other operating income | 100.00% | 97.68% | 84.11% | 104.70% | 108.75% |
| Selling expenses | 100.00% | 107.77% | 103.59% | 106.38% | 104.24% |
| General administrative expenses | 100.00% | 105.47% | 117.53% | 117.23% | 117.38% |
| Cost of material | 100.00% | 105.70% | 101.54% | 103.67% | 102.96% |
| Personal expenses | 100.00% | 103.33% | 105.99% | 108.67% | 107.48% |
| Depreciation | 100.00% | 105.38% | 108.89% | 111.22% | 105.30% |
| Other operating expenses | 100.00% | 113.58% | 59.26% | 62.96% | 79.01% |
| **Earnings before interest and taxes (EBIT)** | 100.00% | 95.67% | 80.90% | 106.40% | 101.68% |
| Result from associated companies | 100.00% | - | - | - | - |
| Other investment result | 100.00% | 127.27% | 136.36% | 136.36% | 372.73% |
| Interest income | 100.00% | 105.95% | 69.73% | 60.54% | 71.89% |
| Interest expenses | 100.00% | 100.89% | 100.89% | 106.21% | 105.47% |
| other financial result | 100.00% | 272.97% | 251.35% | 27.03% | 275.68% |
| Net financial result | 100.00% | 110.83% | 110.12% | 92.08% | 110.15% |
| **Earnings before taxes** | 100.00% | 90.65% | 67.26% | 104.42% | 94.36% |
| Income taxes | 100.00% | 76.07% | 94.82% | 123.93% | 130.71% |
| **Net profit for the period** | 100.00% | 98.80% | 51.85% | 93.51% | 74.03% |
| Profit attributable to minority interests | 100.00% | 99.37% | - | - | - |
| from continuing operations | 100.00% | 99.37% | 328.48% | 592.41% | 468.99% |
| from discontinued operations | 100.00% | - | - | - | - |
| Profit attributable to shareholders of METRO AG | 100.00% | 48.85% | 46.42% | 103.03% | 76.48% |
| Earnings per share in € | 100.00% | 48.81% | 46.43% | 103.17% | 76.59% |
| from continuing operations | 100.00% | 98.45% | 81.40% | 120.93% | - |
| from discontinued operations | 100.00% | 2183.33% | - | - | - |

# Annex 5

| items | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| **Net sales** | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| **Cost of sales** | 79.13% | 78.93% | 78.84% | 78.60% | 79.01% |
| **Gross profit on sales** | 20.87% | 21.07% | 21.16% | 21.40% | 20.99% |
| Other operating income | 2.42% | 2.23% | 1.99% | 2.42% | 2.53% |
| Selling expenses | 17.82% | 18.15% | 18.09% | 18.10% | 17.88% |
| General administrative expenses | 2.11% | 2.10% | 2.42% | 2.36% | 2.38% |
| Cost of material | 79.00% | 78.90% | 78.60% | 78.19% | 78.30% |
| Personal expenses | 10.56% | 10.31% | 10.96% | 10.95% | 10.92% |
| Depreciation | 2.00% | 1.99% | 2.13% | 2.12% | 2.03% |
| Other operating expenses | 0.13% | 0.14% | 0.07% | 0.08% | 0.10% |
| **Earnings before interest and taxes (EBIT)** | 3.24% | 2.93% | 2.57% | 3.29% | 3.17% |
| Result from associated companies | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Other investment result | 0.02% | 0.02% | 0.02% | 0.02% | 0.06% |
| Interest income | 0.29% | 0.29% | 0.20% | 0.17% | 0.20% |
| Interest expenses | 1.05% | 1.00% | 1.04% | 1.07% | 1.07% |
| other financial result | 0.06% | 0.15% | 0.14% | 0.01% | 0.15% |
| Net financial result | 0.81% | 0.84% | 0.96% | 0.86% | 0.96% |
| **Earnings before taxes** | 2.43% | 2.08% | 1.60% | 2.42% | 2.21% |
| Income taxes | 0.87% | 0.63% | 0.81% | 1.03% | 1.10% |
| **Net profit for the period** | 1.56% | 1.46% | 0.79% | 1.39% | 1.11% |
| Profit attributable to minority interests | 0.25% | 0.23% | - | - | - |
| from continuing operations | 0.25% | 0.23% | 0.79% | 1.39% | 1.11% |
| from discontinued operations | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| Profit attributable to shareholders of METRO AG | 1.28% | 0.59% | 0.58% | 1.26% | 0.95% |
| Earnings per share in € | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| from continuing operations | 0.00% | 0.00% | 0.00% | 0.00% | - |
| from discontinued operations | 0.00% | 0.00% | - | - | - |

# Annex 6

| ASSETS | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| **Non-current assets** | 100.00% | 99.61% | 97.80% | 100.16% | 99.68% |
| Goodwill | 100.00% | 90.37% | 91.10% | 92.33% | 92.31% |
| Other intangible assets | 100.00% | 107.18% | 96.50% | 84.66% | 88.16% |
| Tangible assets | 100.00% | 101.56% | 99.29% | 101.22% | 102.67% |
| Investment properties | 100.00% | 114.66% | 111.21% | 205.17% | 180.17% |
| Financial assets | 100.00% | 94.74% | 74.34% | 163.16% | 51.97% |
| Other receivables and assets | 100.00% | 91.84% | 94.49% | 90.61% | 95.92% |
| Deferred tax assets | 100.00% | 110.12% | 108.11% | 105.37% | 95.26% |
| **Current assets** | 100.00% | 100.18% | 98.85% | 107.77% | 101.17% |
| Inventories | 100.00% | 95.54% | 97.03% | 101.77% | 103.82% |
| Trade receivables | 100.00% | 87.80% | 120.85% | 97.59% | 104.75% |
| Financial assets | 100.00% | 28.57% | 135.71% | 10.71% | 425.00% |
| Other receivables and assets | 100.00% | 101.82% | 84.95% | 88.56% | 93.69% |
| Entitlements to income tax refunds | 100.00% | 118.55% | 147.27% | 149.82% | 156.73% |
| Cash and cash equivalents | 100.00% | 112.85% | 116.40% | 139.79% | 97.73% |
| Assets held for sale | 100.00% | 67.25% | 34.21% | 68.13% | 64.04% |
| **Total assets** | 100.00% | 99.86% | 98.26% | 103.53% | 100.34% |
| **LIABILITIES and EQUITY** | 100.00% | 99.86% | 98.26% | 103.53% | 100.34% |
| **Equity** | 100.00% | 93.32% | 92.06% | 99.25% | 98.89% |
| Share capital | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Capital reserve | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| Reserves retained from earnings | 100.00% | 84.87% | 82.58% | 101.84% | 103.79% |
| Minority interests | 100.00% | 100.00% | 93.70% | 59.84% | 28.74% |
| **Non-current liabilities** | 100.00% | 100.16% | 123.77% | 122.20% | 112.19% |
| Provisions for pensions and similar commitments | 100.00% | 99.08% | 100.51% | 104.42% | 105.65% |
| Other provisions | 100.00% | 101.72% | 95.80% | 90.08% | 91.22% |
| Financial liabilities | 100.00% | 100.02% | 134.06% | 129.88% | 116.00% |
| Other liabilities | 100.00% | 95.83% | 103.09% | 117.00% | 116.85% |
| Deferred tax liabilities | 100.00% | 120.77% | 118.03% | 115.85% | 85.79% |
| **Current liabilities** | 100.00% | 101.88% | 90.89% | 98.06% | 96.45% |
| Trade liabilities | 100.00% | 98.23% | 100.61% | 102.16% | 101.27% |
| Provisions | 100.00% | 90.63% | 97.40% | 92.36% | 92.19% |
| Financial liabilities | 100.00% | 127.33% | 36.34% | 64.62% | 59.31% |

# Annex 7

| ASSETS | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|---|---|---|---|---|
| **Non-current assets** | 55.75% | 55.60% | 55.48% | 53.93% | 55.38% |
| Goodwill | 12.94% | 11.71% | 11.99% | 11.54% | 11.90% |
| Other intangible assets | 1.52% | 1.63% | 1.49% | 1.24% | 1.34% |
| Tangible assets | 36.41% | 37.03% | 36.79% | 35.59% | 37.25% |
| Investment properties | 0.34% | 0.39% | 0.39% | 0.68% | 0.61% |
| Financial assets | 0.45% | 0.43% | 0.34% | 0.71% | 0.23% |
| Other receivables and assets | 1.45% | 1.33% | 1.39% | 1.27% | 1.38% |
| Deferred tax assets | 2.80% | 3.09% | 3.08% | 2.85% | 2.66% |
| **Current assets** | 44.25% | 44.40% | 44.52% | 46.07% | 44.62% |
| Inventories | 21.63% | 20.70% | 21.36% | 21.27% | 22.39% |
| Trade receivables | 1.50% | 1.32% | 1.62% | 1.50% | 1.62% |
| Financial assets | 0.08% | 0.02% | 0.11% | 0.01% | 0.35% |
| Other receivables and assets | 9.08% | 9.26% | 7.85% | 7.77% | 8.48% |
| Entitlements to income tax refunds | 0.81% | 0.96% | 1.22% | 1.17% | 1.27% |
| Cash and cash equivalents | 10.14% | 11.45% | 12.01% | 13.69% | 9.87% |
| Assets held for sale | 1.01% | 0.68% | 0.35% | 0.66% | 0.64% |
| **Total assets** | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| **LIABILITIES and EQUITY** | 100.00% | 100.00% | 100.00% | 100.00% | 100.00% |
| **Equity** | 19.22% | 17.96% | 18.00% | 18.42% | 18.94% |
| Share capital | 2.47% | 2.47% | 2.51% | 2.38% | 2.46% |
| Capital reserve | 7.51% | 7.52% | 7.64% | 7.25% | 7.49% |
| Reserves retained from earnings | 8.49% | 7.22% | 7.14% | 8.35% | 8.78% |
| Minority interests | 0.75% | 0.75% | 0.72% | 0.43% | 0.21% |
| **Non-current liabilities** | 21.72% | 21.79% | 27.36% | 25.64% | 24.29% |
| Provisions for pensions and similar commitments | 2.87% | 2.85% | 2.94% | 2.90% | 3.02% |
| Other provisions | 1.55% | 1.58% | 1.51% | 1.35% | 1.41% |
| Financial liabilities | 14.85% | 14.87% | 20.26% | 18.63% | 17.17% |
| Other liabilities | 1.91% | 1.83% | 2.00% | 2.16% | 2.22% |
| Deferred tax liabilities | 0.54% | 0.65% | 0.65% | 0.60% | 0.46% |
| **Current liabilities** | 59.06% | 60.26% | 54.64% | 55.94% | 56.77% |
| Trade liabilities | 41.59% | 40.91% | 42.59% | 41.04% | 41.98% |
| Provisions | 1.70% | 1.54% | 1.69% | 1.52% | 1.56% |
| Financial liabilities | 7.99% | 10.19% | 2.96% | 4.99% | 4.73% |